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ABSTRACT

This symposium report contains 10 papers on educational issues related to research and practice: "Collaborative Research: Using Adolescent Literature to Develop Student Pride in Rural Living" (Lisa A. Spiegel); "Perceptions of Mentoring Practices by Interns and Mentors in a Professional Development Center" (Sharon Ross and Lana Danielson); "Perceptions of Listening Practices: Professional Developmental Needs and Curricular Emphasis" (Constance L. Hoag and Julie Krogh); "Elementary Teachers' Perceptions Toward Use of Internet Components and Instructional Applications" (Robert W. Wood, Lynne Roach, and Robert Reinke); "Project-Based Learning in a University Physical Science Class" (Paul B. Otto); "An In-Depth Study of the Caldecott and Newbery Award Winners, Continued" (Maurine V. Richardson and Margaret B. Miller); "Successful Inclusion: Teachers' Perceptions" (Geralyn M. Jacobs, Joanne Wounded Head, Kristy Spencer, Dorothy Stoll, and Gui-Ping Zhang); "Comparing the Effects of Teacher-Directed Homework and Student-Centered Homework on Return Rate and Homework Attitudes of Minority Students with Learning Disabilities" (Susan Kogan); "The Effects of Classroom Environment on Children's Attention" (Marilyn K. Urqhart and Hee-sook Choi); and "LOGO-Based Instruction: Increasing Geometric Content Knowledge of Preservice Elementary Teachers" (Roger Ray Parsons). (Papers contain references.) (SM)

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SYMPOSIUM PREFACE

The Curriculum and Instruction Research Symposium was conducted on April 25, 1997 to promote the professional sharing of current educational issues. Other goals of this symposium included providing a forum for dialogue concerning relevant educational topics, and the sharing of faculty research interests.

This symposium report document contains a myriad of educational issues, topics and research, and is the written report reflecting the oral presentations. We believe the publication of this document will continue to serve as a forum to encourage professional dialogue and as an acknowledgment of current, relevant research in the field of education.

We gratefully acknowledge the financial support received from the School of Education to help defray the cost of the publication of the symposium events.

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September 1997

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COLLABORATIVE RESEARCH: USING ADOLESCENT LITERATURE TO DEVELOP STUDENT PRIDE IN RURAL LIVING

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It is well-documented that secondary students do not spend much time, classroom or otherwise, writing. Applebee's landmark 1981 study showed writing occurs infrequently in secondary schools, with dominant emphasis upon basic language use skills and mastering mechanics. Only three percent of lesson time was devoted to composition of a paragraph or longer. The most commonly cited assignment of length was the traditional term paper.

In duplicating Applebee's study, Spiegel, Andrews, & Hoover (1994) surveyed rural schools to determine the quality and quantity of assigned writing. These results indicated that 19% of secondary teachers use no writing whatsoever, and again the bulk of writing assigned consisted of mechanics, basic skills, and note taking. Again, the most common assignment of length was the traditional term paper.

In short, we are not preparing our students well regarding writing in general and research specifically. Teachers do little with classroom research, relying on the traditional term paper, which has little relevance to real-life needs outside of the classroom. And, of course, assigning a term paper is simply doing that; the product received is often badly researched, written, and plagiarized. If students are to research and write, then they need meaningful assignments.

Although rural students do not necessarily write more or less than other students, there is one thing they do more of: leave their respective states after high school and college graduation. Rural states see some of their brightest graduates leaving after graduation. Many National Merit Scholars and other exemplary students go to universities in other states. Some states face a critical shortage of physicians, with towns advertising for doctors. Small, isolated towns are unable to find the teachers they need for quality education; many schools are forced to consolidate or close. Salaries are low, winters are long and cold, and on the surface many rural states are not attractive places to live.

Rural students do have different needs from urban and suburban students, and different writing needs as well. Because so many of these students evidence a lack of pride regarding their living situations, it seems natural that writing projects could be based upon their hometowns. Rather than assigning term papers--which are especially meaningless to many rural students who do not choose to continue their education--why not center quality research and writing around a student's hometown?

Rural educators cannot change the world, but they can effect change in their small part of it by assisting students to develop pride in rural life. Pride will not solve social problems, but does lead to self-confidence and contentment which can in turn lead to more satisfying, productive lives.

One way to positively emphasize rural living is through the use of adolescent

literature featuring rural themes with corresponding activities centering upon authentic student research of their hometowns. There are many good books featuring a rural or small town setting that are suitable for all content classrooms, and student research is an excellent complement to this reading. Because rural teens are seldom depicted positively in film or television, good adolescent literature highlighting intelligent teens who happen to live in rural areas should be beneficial to students living in all places. Additional benefits to this adolescent literature (and conclusions that will no doubt be reached through student research) include the following:

READING AND WRITING PROVIDE A "COMMON GROUND"

Having students read one title (or having students read different titles with common themes) and then engaging in authentic research based upon hometowns, gives the class a similar perspective regarding rural life. Misconceptions can be addressed, as well as allowing for the positive aspects of rural life to be discussed.

THERE ARE ADVANTAGES AND BEAUTY TO A RURAL LIFESTYLE

Adults who have chosen to reside in rural areas no doubt realize this, but students may not. Students will be able to experience the many positives of rural life through their reading and corresponding activities.

CHARACTERS LIVING IN RURAL AREAS ARE CAPABLE AND INTELLIGENT

While television, film, and other media often present rural denizens negatively, adolescent literature does not. Characters (and real-life people encountered through research) are bright and accomplished, and provide positive role models for all students.

ADOLESCENT LITERATURE PORTRAYS THE RURAL LIFESTYLE POSITIVELY

In most books, the rural lifestyle is presented as a normal way of life rather than anomaly that is denigrated. Rural teens face the same problems and situations as those living in other places; they have many of the same likes and dislikes as well. Rural life is presented realistically, with characters facing the same lifestyle issues as students, dealing with them, and making good choices. Corresponding research activities will focus on the positives of a rural lifestyle.

A powerful introduction to the topic of rural living is to discuss the various prejudices and perceptions those living in other areas have of rural life. While students may not have been exposed to as many derogatory comments as adults, they no doubt have experienced some through the media, relatives living in other

areas, or new students entering their school. Questions commonly asked provide the following example:

ANECDOTES

*"Do you have running water and electricity?"
*"Can you see buffalo from your window?"
*"Do Native Americans live in tepees?"
*"Where do you shop and eat?"
*"Do you have paved roads?"
*"Do you go to school in a one-room schoolhouse?"

Giving students some examples before they compile their own lists will be helpful, and a sense of community will be formed when it is discovered how many similar items--and student reactions to them--will be listed. This activity also provides time for students to reflect upon the views or questions they may have regarding lifestyles in urban areas or other states.

Because perspective is so crucial in determining personal satisfaction, a logical second step would be to introduce an exercise in personal preferences regarding rural living. Students could be given a questionnaire to fill out, responding to initial perceived advantages and disadvantages of their hometown:

ADVANTAGES AND DISADVANTAGES OF MY HOMETOWN

Advantages	Disadvantages
*Little traffic	*Cold weather
*Little crime	*Limited shopping
*Social network	*Lack of diversity

Students would be encouraged, rather than simply listing disadvantages, to concentrate upon advantages as well. Lists can be compared, demonstrating to students that one's advantage can be another's disadvantage; there are really few absolutes. For example, while cold weather may be often listed as a disadvantage by some students, just as many look forward to the cold and winter activities of skiing, ice-fishing, riding snowmobiles or skating. Students, held captive by their single perspective, are often unable to recognize others' opinions, or see other views as valid. Perspective, and negative attitudes, may well be broadened and changed by this activity.

Now that students are exploring their town using a variety of views, they are ready to focus even further upon the positive. The next task is for students to individually consider and explore the unique features of their area through photographs. Most students and schools have access to a simple camera, which can be loaded with film appropriate for developing into slides. Students should be

given a few days to take pictures of anything in their area that they consider to be interesting, pretty, unusual, or otherwise positively noteworthy. A money-saving idea would be for two students to split the cost of a roll of film and divide the number of exposures between them, then splitting the cost of development. (It many also be possible for film development to occur in the school, if the appropriate facilities are present.)

Students then present a slide-show, explaining why they selected a certain item to photograph. The sheer number of different images presented--along with identical photos--will create discussion of the myriad features of even the smallest hometown. Many students, who have lived in one area all their lives, will be surprised to see photos of places they have never seen before, or items they had never considered unique--until now. Again, the focus is on the positive aspects of rural living.

Next, how familiar are students with their hometown? Many rural families have lived in the same area for decades, but students may not be familiar with their town's history, special events, or other newsworthy items. A common student response is, "Nothing ever happens here," but once they begin researching their town's history, they will discover many rich and interesting facts.

Following a discussion of what information students would most like to learn more about, topics can be formed and listed. Common categories suitable for student research could include the town's origin/founders, history of buildings/landmarks, schools/teachers, churches, notorious/tragic events, natural disasters (tornadoes, floods, etc.), town notables, or special events/traditions.

Once categories of interest have been decided upon, students can be divided into groups and given a topic to explore for a culminating project. Obvious sources for gathering data include courthouse and historical society records, church and school records, and various library holdings (especially newspapers). A benefit to gathering information regarding rural areas is the fact that many families have been in the area for years, so there will be a wealth of information that can be discovered from residents, especially older ones. Students should be encouraged, if not required, to speak with the older citizens of their town when compiling their information. In order to record data, students could be given several forms similar to this one:

DATA SHEET

Topic

Source Information

Source Information

A minimal number of sources required of each group should be decided upon--ten is a reasonable number--but of course many students may have the opportunity to review larger amounts of material depending upon the topic and time frame. Once the individual information has been compiled and organized within the groups, it is ready to be shared with the class through an oral presentation. A written paper, fact sheet, brochure, etc. summarizing the data may also be required.

Of course, on-going reading by students as these projects are being completed is essential. A large number of adolescent titles featuring rural backgrounds positively with strong characters exist; nearly any title would be suitable for this type of project. Good titles to begin with that rural students especially enjoy are Joan Bauer's humorous Squashed (1992), featuring an Iowa teen raising a giant squash for the fair; Gary Paulsen's The Monument (1991), with an eccentric artist hired to create a Vietnam memorial for a small Kansas town; Louise Plummer's My Name is Sus5an Smith. The 5 is silent (1991), with a girl from Utah moving to big-city Boston; Cynthia Rylant's Missing May (1992), which follows a rural West Virginia family's grief in the loss of a teen's beloved aunt; and Alden Carter's Up Country (1989), in which a rebellious teen moves to live with relatives in rural Wisconsin after his mother is arrested and unable to care for him.

Many rural educators and students are unaware of the number of books available featuring rural living, especially stories presenting this lifestyle positively (although admittedly, for some the plot revolves around a teen from the city who is "forced" to visit rural relatives, eventually enjoying the stay). Of course, rural teens will be able to relate very well to that storyline!

Rural teens, especially those from the Midwest, enjoy reading stories set in these states, which seem to be harder to come by as much adolescent literature is set in large cities or suburban towns. Although adolescent literature is written for teens, it is not necessarily written for rural teens; hence the benefits of books with rural settings. Rural life, in many ways, is very different from urban or suburban living, and while of course rural teens enjoy all genres of adolescent literature, it is nice to find those books which mirror the lives of the rural students reading them.

While students are working on their various projects, they should be reading as well. To assist students in focusing upon their reading and the rural setting of these books, a response sheet similar to the one below could be required of each book read:

ADOLESCENT LITERATURE RESPONSE

Title
Author
What are the similarities between these characters' lifestyle and your own?

What are the differences between these characters' lifestyle and your own? What is your reaction to this novel?

Students can discuss these books as a class, or with others in smaller configurations, as they complete their projects. On-going discussion, of course, would incorporate titles read into the classroom activities being completed. Questions such as, "How relevant or true-to-life is any given title?" "Are the characters and plots believable?" "How are these fictional situations similar to, different from student lives?" may be among those asked and answered throughout this unit. Students should be encouraged to read as many books as possible, preferably completing at least one before the unit begins. After the project's completion, students should be encouraged to continue reading these suggested titles, with discussion, both formal and informal, occurring throughout the year.

Will these activities produce happy, content rural students who will swear by this lifestyle forever? Of course not, but it will allow rural students to experience pride in their hometown and create an opportunity for them to read good literature about teens in similar lifestyle situations, with similar problems, advantages, and disadvantages. It is difficult to be an adolescent today, and rural students can benefit from validation of their lifestyle by engaging in authentic research activities that provide immediacy and relevance. Pride goes a long way in self-esteem, which in turn leads to positive choices and happier lives. With the overwhelmingly negative presentation of rural living found in the media and society, it is certainly time to focus on the positives and increase the various levels of pride and satisfaction felt by our rural students.

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PERCEPTIONS OF MENTORING PRACTICES BY INTERNS AND MENTORS IN A PROFESSIONAL DEVELOPMENT CENTER

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INTRODUCTION

Fifty percent of new teachers in the United States are not in the classroom five years later (Haberman, 1987). According to Zimpher and Grossman (1992), this "crisis in the teacher dropout rate" (p. 142) was the impetus for as many as thirty-six state programs which mandated that schools provide assistance to entering teachers. Several of these state-mandated beginning teacher assistance programs have included the idea of a mentor teacher who is "a master of the craft of teaching and personable in dealing with other teachers; an empathetic individual who understands the needs of the mentorship role" (Zimpher and Grossman, 1992, p. 145).

Stoddart (1990) referred to the 1986 Carnegie Task Force on the Teaching Profession and to 1986 Holmes Group research in arguing that teacher education should be restructured, concentrating most on clinical or field-based programs which focus on developing expert practitioners. Not only should these prospective teachers be striving to acquire technical skill, but they would also be "reflective," able to critically analyze what they do in their classrooms. Further, Stoddart has suggested that reform efforts place great emphasis on the role of experienced teachers as mentors who guide the novices, but that "little is known about the process of learning to teach and the role experienced teachers play in developing reflective practitioners" (p. 3).

Odell (1990) pointed out that through informal interactions with other teachers, beginning teachers increase their perspectives about teaching and learn functional teaching practices. Formal assignment of an experienced teacher to guide and interact with a beginning teach can greatly augment these benefits. This arrangement can provide the new teacher with specific opportunities to apply theory and principles about teaching, to critically analyze the teaching process, and to reflect about teaching--all with feedback from an experienced practitioner.

Odell stressed the importance of experienced teachers in raising questions to help novice teachers develop and grow--to guide them toward more sophistication in their teaching. Such changes must take place internally before they can become fully incorporated into their teaching practices. Odell further discussed guided practice that varies in style depending on whether the experienced teacher is a "responder" or an "initiator." The range of difference in the two styles is largely dependent on the degree of responsibility that the experienced teacher assumes for the growth of the new teacher. According to Odell, "...a responder is characterized as an experienced teacher who is willing to guide a novice teacher, but who trusts that the novice teacher will ask for guidance as it is needed" (p. 37). Unless the novice teacher specifically asks for guidance, the responder will not assume the responsibility for offering it. On the other hand, "...an initiator is an experienced teacher who accepts the responsibility for facilitating the professional growth of the novice teacher by initiating relevant interactions and offering unsolicited

suggestions and support" (p. 37). Interactions between an initiator and a novice range from particular teaching episodes to generalized concepts about teaching.

Strategies of guided practice are related to the degree of directiveness in the mentor/novice interactions. According to Odell, at one end of the continuum is nondirectiveness, which is most closely identified with the responder style of guidance. The mentor does not pursue opportunities to question or guide the novice through reflection toward a higher level of teacher development. This strategy allows novices the freedom to think for themselves without being led or directed by the mentor. On the other end of the continuum is an initiator style which employs a fully authoritative directive strategy. The mentor's style moves away from nondirectiveness toward increasing directiveness. This strategy assumes that "novice teachers learn how to teach by being told how to teach" (p. 38). Odell suggested that this approach dismisses the opportunity for effecting conceptual change within the novice by facilitating reflection and interaction.

According to Odell, the ideal mentoring style appears to be that of an initiator, somewhere in the middle of the range between nondirectiveness and directiveness. This style allows for mutually directive, interactive strategies of guided practice wherein both teachers are "thinking together" about teaching (p. 38).

BACKGROUND OF THE STUDY

Beginning in the 1993-94 school year, a small midwestern state university and three nearby public school districts contracted to embark on a professional development program (PDC). For one year, newly certified teachers or "interns" took over the teacher responsibilities of veteran or "mentor" teachers. The mentor aided the intern throughout the year by providing planning assistance, demonstration teaching, team teaching, guidance, reassurance, and feedback concerning the many facets of teaching. The quality of mentoring was considered a vital component of the program.

RESEARCH PROCEDURES

This study combined companion research that explored both the interns' and mentors' perceptions of the need for and delivery of mentoring behaviors. The purpose of this study was to identify and describe those mentoring behaviors which supported or inhibited growth of the first year teachers participating within the PDC. The following research questions were addressed:

1. Does the presence or absence of specific mentoring behaviors and strategies affect intern satisfaction with mentor guidance and support?

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2. What kinds of mentoring strategies appear to support the growth of the intern?

3. Does mentoring style affect intern satisfaction with mentor guidance and support?

4. Does the similarity or difference between mentor and intern pairs' perceptions about the need for and delivery of mentoring strategies affect satisfaction?

PARTICIPANTS

Fifteen novice teachers participated in the study on intern perceptions of the mentoring received. Three were males and twelve were females. They ranged in age from twenty-two to thirty-nine, and only one had previous teaching experience beyond student teaching. Their teaching areas ranged from first grade through high school and their academic backgrounds, in most cases, also included several courses which they had taken as a cohort within the PDC program (e.g., the PDC Implementation Seminar, Improvement of Instruction, and two seminars for PDC teachers).

Ten veteran teachers participated in the companion study on mentor perceptions of the mentoring given to the novice teachers. Five were males and five were females. Some mentors had two or three interns with whom they worked. Mentors were expected to devoted 40% of their PDC time to guiding the interns through the induction year.

DESIGN

Because this research focused on relationships, specifically the mentor/intern relationships meant to foster growth in new teachers, techniques and procedures pertinent to naturalistic research and self-reports were used to gather and analyze data. Four data sources were used. One source of data was a structured interview of open-ended questions designed by the researchers. Journals written throughout the PDC year were also used as a data source. A third data set was the Teacher Mentoring Scales adapted from the Minnesota State Department of Education's mentoring program. The scales contained twenty statements regarding types of mentoring assistance and participants responded using a Likert scale with 1 indicating "no need" and 6 indicating "major need." A fourth source of data was the Style Continuum based on Odell's research regarding "responder" and "initiator" tendencies.

FINDINGS

The data indicated that there were mentoring strategies the interns identified

as supporting their growth. These strategies included team teaching, demonstration teaching, clinical "observation" (in the literature this is generally referred to as "clinical supervision"), help in planning lessons and units, and guidance about classroom concerns. Ten out of the fifteen interns had experienced all of the identified mentoring activities. Of the eight interns who gave their mentors high satisfaction ratings, all but one benefited from all five mentoring activities. These results suggest that the more mentoring strategies employed, the more likely the intern's feeling of success and satisfaction.

A second finding addressed the effects of mentoring style. Of the styles identified by previous research, i.e., the non directive responder and the directive initiator, interns in this study preferred a style midway between the two. They wanted mentors who took active roles in their teaching experiences, yet they also wanted a mutually directed, collaborative experience. Note in Figure 1 that the mentors who were considered highly satisfactory were massed in the center of the continuum between the two styles. This placement on the continuum indicated a helpful, collaborative disposition that recognized the developmental needs of the intern. Those interns who indicated dissatisfaction with the mentoring they received perceived the mentoring style to be very non directive.

A third finding related to the correspondence between intern satisfaction and mentoring strategies. Figure 1 identifies both perceived mentoring style and degree of satisfaction by both the interns and the mentors. Those mentor/intern pairs who held similar perceptions about the mentoring style and the degree of need for and delivery of mentoring also had the highest level of satisfaction as indicated by the asterisk after the Intern number. Those interns who indicated a low level of satisfaction tended to be in mentor/intern relationships that reflected dissimilar perceptions about the mentoring style and perceived need for and delivery of mentoring strategies.

Finally, there seemed to be a pattern in the demographics of gender and grade level and the satisfaction rating from interns. All of the low satisfaction ratings in this study were from interns who had male mentors at the secondary level. Although this could be an anomaly of the group, it raises questions about the potential relationship between both gender and grade level and the nature of mentoring provided to the novice teachers in this population.

CONCLUSIONS

This study provided evaluative data on the nature of mentoring in a Professional Development Center. The findings support the importance of mentoring strategies identified by this population as team teaching, demonstration teaching, clinical "observation," help in planning lessons and units, and guidance about classroom concerns. Furthermore, the study reinforces Odell's research encouraging a balanced approach between directive (initiator) and non directive

(responder) styles in which both the mentor and the intern collaborate in the responsibility for initiating mentoring support. Third, the study indicates that communication between the mentor and intern in order to clarify the nature of mentoring needed is critical to satisfaction with the mentoring relationship. The more consistent the perceptions between the mentor and intern were, the more likely a positive satisfaction with the relationship resulted.

Two implications for further study can also be made. Research could be conducted to identify the progression of stages within a successful mentor/intern relationship. Insight into the needs of interns at each of these stages could enhance the quality of mentoring they receive. The influence of gender (male and female mentors as well as cross-gender mentor/intern pairs) as well as grade level (elementary or secondary level mentors) should be investigated. The satisfaction ratings for participants in this study did reflect a pattern.

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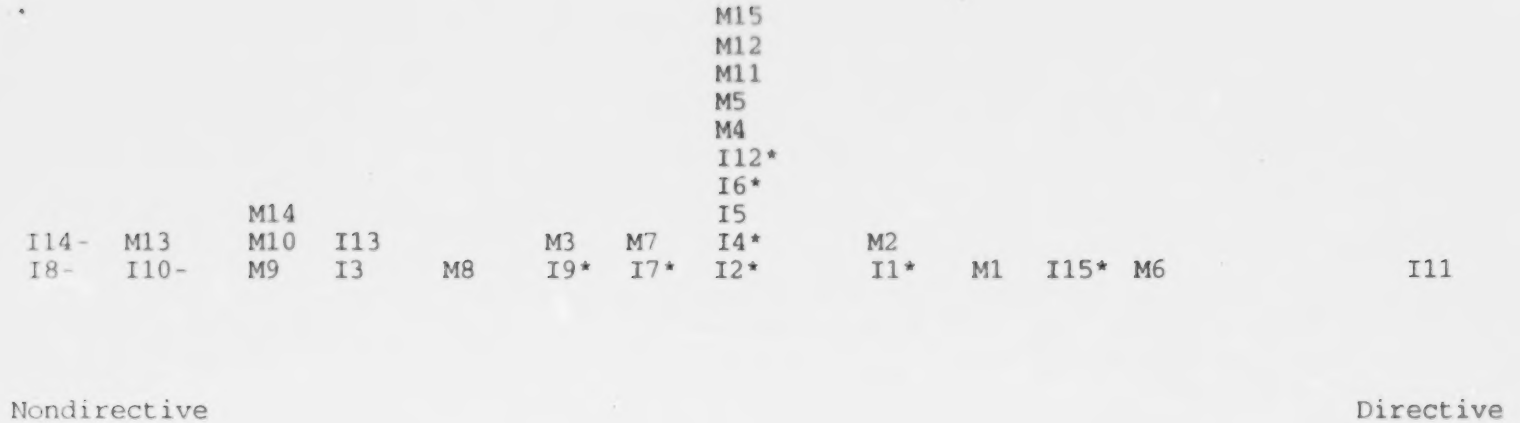

Coding key: I1 = Intern #1 M1 = Mentor for Intern #1

* indicates high mentor satisfaction by intern
\- indicates low mentor satisfaction by intern
no mark indicates medium mentor satisfaction

Nondirective: Mentor is willing to guide but leaves it to the intern to ask for guidance as needed.

Directive: Mentor facilitates the professional growth of intern by initiating relevant interactions and offering unsolicited suggestions and support.

Figure 1 Mentoring Style Continuum as Perceived by Mentors (M) and Interns (I) and Intern Satisfaction Rating

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PERCEPTIONS OF LISTENING PRACTICES: PROFESSIONAL DEVELOPMENT NEEDS AND CURRICULAR EMPHASIS

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BACKGROUND OF LISTENING

Researchers, business executives, media personnel and educators are beginning to acknowledge the societal and personal needs of valuing, developing and practicing proficient communication skills. Foremost among the communication skills now being targeting for proficiency is that of listening.

In the educational venue, this emphasis on listening is in direct contrast to the usual classroom procedures which has traditionally been chalk-and-talk environment in which students passively listen to verbal presentations of teachers. In addition little time has been appropriated to the teaching of listening in contrast to the other communication skills.

In the landmark study of Rankin (1926), and still true as we enter the twenty-first century, listening was found to be the first communication skill learned, the most used (45% of the communication day) and the least taught in schools. Research reports classroom formal years of training for listening to be from 0-1/2 year.

Further comparisons between the communication skills of speaking, reading and writing point out the neglect of listening emphasis and training. Rankin (1926) found speaking to be the second language art skill to be acquired, used next to most in the communication day (30%) and taught next to the least, with formal training amounting to 1-2 years. Reading was acquired third among the communication skills, used next to the least in life (16%) and taught next to the most, for 6-8 years. Writing was acquired last, used the least in life (9%) and taught the most in schools, encompassing all 12 years of schooling.

These and other communication statistics prompted Dr. Ralph Nichols, the "Father of Listening" to note our educational system is upside down, that we teach the most that which we use in life the least, and we teach the least that which we use the most (cited in Hoag, 1996). This information is most striking in the analogy illustrating the significance and impact of the four communication processes, as noted by Loban (1963):

> We write the equivalent of a book a year,
> We read the equivalent of a book a month,
> We speak the equivalent of a book a week,
> We listen the equivalent of a book a day.

BACKGROUND OF THE SIOUX CITY COMMUNITY SCHOOLS

The Sioux City Community School District (SCCSD), located in Sioux City, Iowa has a mission statement that reads "The Sioux City Community School District exists to develop knowledgeable citizen will promote their own well being as well as

that of all peoples in the world community. The District shall strive to graduate citizens who will have the knowledge, skills and competencies to begin productive lives as parents and workers in contemporary society or to advance to desired post-secondary educational institutions." (1993)

This district has three senior high, three middle and twenty-four elementary school buildings. Many languages are spoken within the district population and many specific services are provided to aid each student in their educational process.

BACKGROUND OF THE WORK KEYS SYSTEM FROM AMERICAN COLLEGE TESTING (ACT) CENTER FOR EDUCATION AND WORK AND THE IOWA BUSINESS COUNCIL (IBC)

In the past decade, concern has been mounting that American workers, both current and future, lack the workplace skills necessary to meet the challenges of technological advances, organizational restructuring, and global economic competition (Targets For Instruction: The American College Testing Program, 1994). Chairman Jack D. Rehm, of the Iowa Business Council stated, "It has become apparent to Iowa Business Council that if Iowa companies are to meet rapidly changing work force needs in today's competitive environment, we must take a leadership role in communicating those specific needs to Iowa's educators. And so, two years ago (1993), the Iowa Business Council began a project called "Making the Grade: Keys to Success on the Job in the 90's." (1995)

The Iowa Business Council (IBC) identified 25 entry level jobs in leading Iowa companies (all paying above minimum wage) and the skills and skill levels needed to perform those jobs. America College Testing (ACT) provided the IBC with a national sampling of high school seniors test results. Significant gaps in student's performance in four areas were recorded:

Reading and understanding work-related materials,
Applying mathematical reason to work-related problems,
Listening to and understanding work-related messages,
Writing work-related messages.

The published survey results, Making The Grade: Keys to Success on the Job in the 90's (1995) stated that if Iowa high school graduates - both college and non-college bound - are to obtain a higher degree of employment success in Iowa companies, the curriculum of our schools must become broader and more skills-orientated.

The report continues with specific information concerning two assessment levels. In the assessment level 1 through level 7 of competencies were determined for reading and mathematics, and levels 1 through 5 were reported for listening and

writing skills graphed on the category detail and complexity of the task required. (See appendix A for detailed graphics of job descriptions and levels necessary for accomplishment)

The assessment found there were many gaps in the knowledge base of those tested in Iowa. The results were:

Writing:

60% of the students tested met level 5.

12% met level 4 included jobs, such as a customer service representative.

Reading:

53% of students have necessary reading skills to be proficient at a level 5, example, secretary status.

Mathematics:

48% have the applied mathematics level to level 5, sales person or secretary.

Listening:

6% of the students sampled have the necessary skills to be a machine operator.

Only 1% have the level of listening skills to be a sales person or a secretary. (1995)

TIME LINE OF LISTENING PROJECTS IN THE SIOUX CITY SCHOOLS

In 1995-96, six hundred twenty Sioux City Community School District (SCCSD) students took the Reading for Information and Understanding Work-Related Materials, Writing and Applied Mathematical Reasoning to Work-Related Problems ACT Work Keys Assessments. Data revealed the greatest need for improvement in the Sioux City Community Schools was in the area of listening skills. The results of the Work Keys Assess-ment was shared with the high school principals and faculty.

In the fall of 1996 East High, North High, West High, Sunnyside and Nodland Elementary identified listening as a building improvement plan. Also in 1996-97 ACT/Work Keys provided staff development topics for high school facilities. Further, a Listening Task Force was established to identify needs and resources available to the SCCSD.

Julie Krogh, SCCSD Head Language Arts Teacher invited Dr. Hoag (University of South Dakota liaison to the committee/ Listening Consultant) to present an overview of listening in- service on January 29, 1997 to the representatives Speaking and Listening Committee. The focuses included awareness of listenings' influence on personal and educational processes.

LOESS RIDGE CONSORTIUM

Representatives from the Iowa Business Council, Sioux City School to Work Program, Gateway, Sioux City Chamber of Commerce, Iowa Beef Processors (IBP), Sioux City Community Schools, and University of South Dakota met for a two day consortium at the Loess Ridge Nature Center to determine the role of and improvement of listening skills and abilities that would benefit schools and the business communities alike. As a result of the February 5 - 6, 1997 meeting many action orientated accomplishments were realized, including the writing of a mission and goal statements, determining of individual and group task procedures, plans for seeking funding, and the necessity of a needs assessment to determine the beliefs and perceptions of the stake holders within the Sioux City School district.

As an outgrowth of this meeting Constance L. Hoag and Julie Krogh were charged with developing appropriate Sioux City District-wide surveys. Other priorities were to determine the perceptions and beliefs of all members of the school district pertaining to listening and the teaching of listening skills.

Among the other charges provided by the consortium group were to raise the awarenesses about the importance of listening and to be inclusionary in the data gathering. Further, the survey results were to be used to determine the curricular and future emphasis on listening within the district's curriculum.

NEEDS ASSESSMENT AND SURVEY PROCESSES

Dr. Hoag and Mrs. Krogh developed surveys for students, grades kindergarten - 3rd grade, 4th - 5th grade, middle school, high school, parents, teachers and principals to determine district needs. Care was taken to seek a variety of responses, specific to the appropriate age/grade level of students. It should be further noted specific references were made to the integration of listening into the curriculum for the parent, teacher and principal surveys. See appendix B for examples of the surveys. A survey was made available to every student, parent (at conference time), teacher and principal within the district and were color-coded to provide ease of tabulation and classification. To accommodate the diversity of cultures in the Sioux City Community Schools the surveys were provided in three languages English, Hispanic and Vietnamese.

At the time of the Curriculum and Instruction Research Symposium presentation, April 25, 1997, surveys were still arriving at the District Central Office. The results will continue to be tabulated by Dr. Joyce Peterson of the Western Hills Area Education Agency (AEA).

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From the preliminary results tallied from the early survey returns, the following generalizations were reported at the Curriculum and Instruction Symposium. A few examples are:

Students:

+ I'm a good listener.
+ I stink at listening.
+ I really think that if we all listen, we would understand better.
+ Teachers expect me to listen all the time.
+ My listening depends on the subject being taught.
+ If teachers listened to kids, then kids would listen to them.
+ I am a good listener, but I have never been taught to be a good listener.

Teachers:

+ The curriculum is already overcrowded, listening should be integrated.
+ Listening is an important skill.
+ It would be wonderful to have a series of listening activities to use with students - to build listening skills.
+ It is difficult because we've had no training.

Parents:

+ I can tell ___ listens in school, I wonder if ___ listens at home.
+ Way to go! We support this effort.
+ I would also encourage teachers to improve their listening skills.
+ What would this involve? More money? More time? Extended day?

Principals:

+ What will you take out of the curriculum if you add a specific curriculum for the teaching of listening?
+ Excellent! Parenting Information, too. Active listening = hearing plus feedback.
+ A study was done years ago where it was determined that between 40-60% if a student's day involves listening, yet we spend very little time teaching them how to listen.

FINAL THOUGHTS AND EDUCATIONAL IMPLICATIONS

The presenters of this symposium program suggest that the fine reputation (ranking 3rd in the nation) of the Iowa schools would be an appropriate comparison for all states and by no means singles out any particular state for comparison. The credibility of the findings lie within the striking results of a state ranked so high in comparisons with national averages finds the need to address, remediate, teach and honor listening. The mission statement of the Sioux City Community School District speaks directly to the purpose of this ACT/Work Keys analysis and the objectives of the listening projects to be implemented district and at individual

school sites, alike. Without a doubt this study supports the need for an educational emphasis on listening. We further believe the Work Keys study has striking implications for teacher preparation courses and curriculum content, especially at the University of South Dakota.

Dr. Hoag and Mrs. Krogh are eager for all results to be tabulated and for the Sioux City Community School District and the University of South Dakota Teacher Preparation Program to implement concrete practices to enhance listening processes and skills. We find this type of cross-curricular and cross-educational unit collaboration to be energizing, exhilarating and beneficial to all individuals concerned. Perhaps the greatest benefits, and appropriately so, will be found in the student's growth and ability to take a life-long learner's perspective.

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Listening Survey—Grades K-3

This survey will help us to know what you think about listening. Think about each statement as your teacher reads it aloud. Circle the face that best shows how you feel about each statement.

= yes/agree

=sometimes

=no/disagree

1. My teacher expects me to listen for most of the day.

2. My teacher teaches me how to listen.

3. It is easy for me to listen.

4. When my teacher says "listen," I know what to do.

5. I wish I were better at listening.

6. I listen and follow directions the first time.

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Listening Survey—Grades 4-5

This survey will help us know what you think about listening. Please circle the number that best shows how you feel about each statement.

Strongly Agree-4 Agree-3 Disagree-2 Strongly Disagree-1

1. Teachers expect me to listen for most of the day.	4	3	2	1
2. My teacher teaches me how to listen.	4	3	2	1
3. It is easy for me to listen.	4	3	2	1
4. When my teacher says "listen," I know what to do.	4	3	2	1
5. I sometimes pretend to listen.	4	3	2	1
6. I wish I were better at listening.	4	3	2	1
7. I listen to directions the first time.	4	3	2	1
8. I think I would be a better student if I were a better listener.	4	3	2	1
9. It causes me problems when I don't listen well.	4	3	2	1

Comments:

Listening Survey—High School

The purpose of this survey is to help determine student beliefs about listening. Please circle the number that best corresponds with your belief about each statement.

Strongly Agree-4 Agree-3 Disagree-2 Strongly Disagree-1

1. My teachers require me to listen most of the day.	4	3	2	1
2. When my teacher tells me to listen, I know what to do.	4	3	2	1
3. It is easy for me to listen.	4	3	2	1
4. My teachers have taught the skills necessary for me to be an effective listener.	4	3	2	1
5. I believe I am good at listening.	4	3	2	1
6. I wish I knew how to be a more effective listener.	4	3	2	1
7. I listen only when I think a topic is interesting or important to me.	4	3	2	1
8. I think I would be a better student if I were a more effective listener.	4	3	2	1
9. It causes me problems when I do not listen well.	4	3	2	1

Comments:

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Listening Survey—Teachers

This survey will help us to determine teacher beliefs about listening in the classroom. Please circle the number that best corresponds with your belief about each statement.

Strongly Agree-4 Agree-3 Disagree-2 Strongly Disagree-1

1. One of the key problems in classrooms is students not listening. 4 3 2 1

2. My students would benefit from specific instruction in listening. 4 3 2 1

3. I want to know how to more effectively teach listening. 4 3 2 1

4. I believe listening instruction should be integrated into the present curriculum. 4 3 2 1

5. I feel confident that the current curriculum prepares my students to be effective listeners. 4 3 2 1

6. I have had adequate staff development/training in teaching listening skills. 4 3 2 1

7. A specific curriculum plan and supplemental materials would facilitate my teaching of listening. 4 3 2 1

8. I model good listening behaviors with my students. 4 3 2 1

9. My principal listens to me. 4 3 2 1

Comments:

Listening Survey—Parents

The Sioux City Community School District is examining parent beliefs about listening. Please circle the number that best corresponds with your belief about each statement.

Strongly Agree-4 Agree-3 Disagree-2 Strongly Disagree-1

1. Listening is an important skill for my child/children to acquire.	4	3	2	1
2. Improved listening skills would benefit my child/children.	4	3	2	1
3. The Sioux City schools prepare my child/children to be effective listeners.	4	3	2	1
4. If my child were to bring home a listening game, I would be willing to play/participate.	4	3	2	1
5. I support the effort by the Sioux City Community School District to improve students' listening skills.	4	3	2	1

Comments:

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ELEMENTARY TEACHERS' PERCEPTIONS TOWARD USE OF INTERNET COMPONENTS AND INSTRUCTIONAL APPLICATIONS

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INTRODUCTION

Powerful national, state, and local initiatives are now underway to make our nation technology literate. "Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship" is part of the national agenda as stated in Education Goals 2000 (1994). To many people literacy means reading and writing, but today technology is considered part of the literacy movement in the United States.

In order for technology literacy to become a part of the educational movement, various groups must come together to promote greater use of technology in the schools of the United States. The federal government, along with state governments, must provide the leadership and financial support to assist local school districts in incorporating technology into the curriculum. School superintendents and building principals must work with teachers and parents to develop a plan by which technology is integrated into the various curricular areas. Teachers have to make serious efforts to plan units of instruction where appropriate technology is implemented. Having students become technology literate is truly a team effort.

In a recent study by the American Association of School Administrators, 94 percent of the 1,000 surveyed teachers and school administrators believed computer technology has improved teaching and learning in United States schools. Nearly 50 percent of the respondents stated teachers must be trained to use technology more effectively.

Teachers and administrators believed computer education is available for educators. Seventy-two percent of those surveyed stated training most often focuses on basic computer operation rather than education for integrating computers into instruction, using the Internet, and using instructional software. (AASA, 1997)

When looking at technology literacy in schools nationwide, several questions arise. What is occurring in South Dakota elementary schools regarding computer usage? More specifically, what Internet components and instructional applications are being utilized?

PURPOSE OF THE STUDY

The purpose of this study was to survey elementary school teachers in South Dakota regarding their perceptions toward use of Internet components and instructional applications.

RESEARCH PROCEDURES

In order to select participants for the research, 100 elementary schools with grades 1-6, were randomly selected by using a table of random numbers. Two hundred teachers from the 100 elementary schools were mailed the survey instrument with an accompanying letter. In order to have a balance of teachers across grades 1-6, the first questionnaire was sent to a first grade teacher, the second questionnaire to a second grade teacher, up through grade six. The sequence started over again until 200 teachers were identified. The outside of the envelope indicated the teachers' appropriate grade level. Participation was voluntary, and of the 200 elementary teachers mailed the questionnaire, 100, or 50 percent of those contacted, participated in the research by completing and returning the survey.

A nine-item questionnaire (Appendix A) was designed to solicit perceptions about various aspects of Internet components and instructional applications. Participants were asked to read and respond to each item on the questionnaire. Issues raised by the questionnaire focused on teachers' use of Internet components; Internet use in classroom instruction; wiring of classrooms and schools for Internet access; Internet competency of teachers; need for training, equipment, Internet access, and curriculum development opportunities; procedures for contending with less desirable materials on the Internet; positive and negative aspects of using the Internet; and, a hypothetical situation dealing with what technology would be purchased if one had $5,000 to spend.

FINDINGS

The first survey item addressed use of e-mail, the World Wide Web (WWW), and listservs for gathering information. Sixty-eight percent of the respondents indicated that e-mail is never used. Thirteen percent stated e-mail is used occasionally, 10 percent moderately, 3 percent extensively, and 6 percent did not respond. Figure 1 summarizes the data for this question.

Over half of respondents (55%) never use the World Wide Web (WWW), 12 percent use it occasionally, 16 percent moderately, 2 percent extensively, and 15 percent did not respond. See Figure 2.

Seventy percent of the teachers never use listservs to gather information. Thirteen percent use listservs occasionally, 1 percent moderately, and 16 percent did not respond to the question. Listserv data is summarized in Figure 3.

The second item on the questionnaire asked teachers how often the Internet was used in classroom instruction . Over three-fourths of the responding teachers (79%) never use the Internet in their classroom instruction. Eighteen percent use the Internet occasionally, and 3 percent did not respond. Figure 4 summarizes the data from this question.

The next question asked if their classroom had an Internet access connection. The majority of the teachers' classrooms (86%) were not wired for Internet access. Thirteen percent were wired for the Internet and 1 percent did not respond. Classroom Internet access data is summarized in Figure 5.

Question four dealt with the school being wired for Internet access. Sixty-two percent of the schools were wired. Thirty-six percent were not wired and 2 percent of the teachers did not respond to the question. Figure 6 contains a summary of the data from this question.

If a school had Internet access, a question was asked about the location of the access. Internet access was located in the library for over one-third of the respondents (35%) and thirty percent identified the computer lab as the access site. A wide variety of other locations were also identified. Figure 7 summarizes the data from this question.

Question five asked elementary teachers to rate themselves in regard to Internet competence. Forty-six percent indicated they were not competent, 26 percent somewhat competent, 9 percent competent, and 2 percent highly competent. Sixteen percent did not respond to the question. See Figure 8.

The next item asked respondents to rank the need for training, equipment, classroom Internet access, and curriculum development opportunities. On a scale from 1 to 4, with 1=no need and 4=strong need, seventy-one percent felt a strong need for Internet training, 62 percent a strong need for equipment, 47 percent a strong need for classroom Internet access, and 58 percent a strong need for curriculum development opportunities. Further analysis of the data appears in Figures 9-12.

The final section of the questionnaire included three open-ended questions. A summary of the comments grouped by question is attached as Appendix B.

DISCUSSION

Analysis of the data indicated that elementary school teachers in South Dakota generally are not using the Internet components of e-mail, the World Wide Web (WWW) and listservs. Additionally, these teachers are not using Internet applications in their classroom instruction.

Findings also indicate that while sixty-two percent of the elementary schools have Internet access in various locations, a vast majority of the classrooms are not wired for Internet access. Because of this lack of classroom Internet access, there is little opportunity for Internet usage by elementary school teachers.

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The perceived lack of Internet competence held by the teachers, coupled with the findings that teachers are in need of training, more equipment, classroom Internet access, and curriculum development opportunities, may also contribute to lack of Internet use and instructional application.

The elementary teachers' comments reflected a wide variety of opinions about the Internet. Comments regarding positive aspects of the Internet focused on unlimited resources, the ability to communicate with people all over the world, and students' ability to learn material in ways more motivational than some current practices. Negative themes included issues such as no access, lack of equipment, and concerns about less desirable material on the Internet.

Respondents' comments also indicated that teachers would purchase equipment, software, and CD-ROMs if given the opportunity to spend $5000 on instructional technology.

These findings indicate that respondents are aware of the components and instructional applications of the Internet even though the Internet is not being used by a majority of respondents.

CONCLUSIONS AND RECOMMENDATIONS

If the elementary schools of South Dakota are going to contribute to the technology literacy movement, it is apparent from the data received from the elementary teachers that more training for teachers is needed and more financial resources must be provided for Internet access and equipment.

Based on the data and comments, the following recommendations are made:

1. Individual elementary school classrooms must be wired for Internet access.

2. Extensive educational/training programs need to be conducted for elementary educators as part of preservice, inservice and professional development activities.

3. Additional technology such as computers, software, and CD-ROMs, need to be purchased to assist elementary educators in classroom instruction.

4. Opportunities need to be provided for curriculum development work which integrates technology and classroom instruction.

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APPENDIX A

Survey
SD Elementary Teachers' Perceptions
Toward Internet Components & Instructional Applications

Dear Teacher: Please mark the appropriate response to each question below. Thank you.

1. How extensively do you use the following as a resource for gathering information?
(1=Never, 2=Occasionally, 3=Moderately, 4=Extensively)

E-mail	1	2	3	4	
World Wide Web		1	2	3	4
List Serves	1	2	3	4	

2. How often do you use the Internet in classroom instruction?

____never ____occasionally ____moderately ____extensively

3. Does your classroom have an Internet access connection? ____yes ____no

4. Does your school have an Internet access connection? ____yes ____no

If yes, where is the connection located? (Check all that apply)

____library ____Principal's office ____computer lab ____Other

5. How would you rate your "Internet competence"?

____not competent ____somewhat competent ____competent ____highly competent

6. Regarding use of Internet in instruction, to what extent do you see a need for teachers to receive the following:

(1=no need, 2=some need, 3=moderate need, 4=strong need)

Training	1	2	3	4
Equipment	1	2	3	4
Classroom Internet access	1	2	3	4
Curriculum development opportunities	1	2	3	4

7. How do you contend with students' ability to experience less desirable materials and contacts using the Internet?

8. List the positive and negative aspects of using the Internet as it exists in your school.

9. If you had $5000 to spend on classroom instructional technology, what would you buy?

(You may use the reverse side for answers if needed)

APPENDIX B
COMMENTS FROM TEACHERS

Question 7. How do you contend with students' ability to experience less desirable materials and contacts using the Internet?

*Students are warned about accessing such material. Consequences are no further use of Internet. Students are closely supervised and monitored during Internet use.

*We have formulated a school policy to handle these situations.
The computers are supervised at all times.

*Students need permission for use and are monitored.

*Students must sign a contract. If violated, student use will be denied.

*I understand that we have some sort of "blocker."

*We have a supervised area. The children are not allowed to contact less desirable materials. If they do, they will lose all privileges with the Internet.

Question 8. List the positive and negative aspects of using the Internet as it exits in your school.

Positive Aspects

*The most positive aspect is the ability to communicate directly with people all over the world.

*It puts the world into the hands of these students. It opens a million doors to knowledge that have not been as easily opened before.

*Information is easily accessible.

*Just about anything you are studying can be found on the Internet.

*Wealth of material available for students and staff.

Negative Aspects

*We have slow computers, so we have to wait a long time for information on the screen.

*The newness of it presents many problems such as training and inappropriate use.

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*Undesirable material available, lack of adults to supervise, and lack of time to use it.

*Right now the most negative aspect is that we only have a few computers that are capable of accessing the Internet and those are located in another building.

*The Internet can be very time consuming for doing research. It eats up a class period.

Question 9. If you had $5000 to spend on classroom instructional technology, what owl you buy?

*First and foremost, that which would be needed to get our building networked. If there would be anything left, it would then be great to start to buy new computers for each classroom and to have at least one on the network.

*Internet access to ALL classrooms,

*A machine to project the computer screen image onto an overhead screen or a hookup to project the image on a television screen.

*Computers and plenty of software for all elementary classrooms.

*More computer software and lots of CD-ROMS.

Figure 1. E-mail Usage

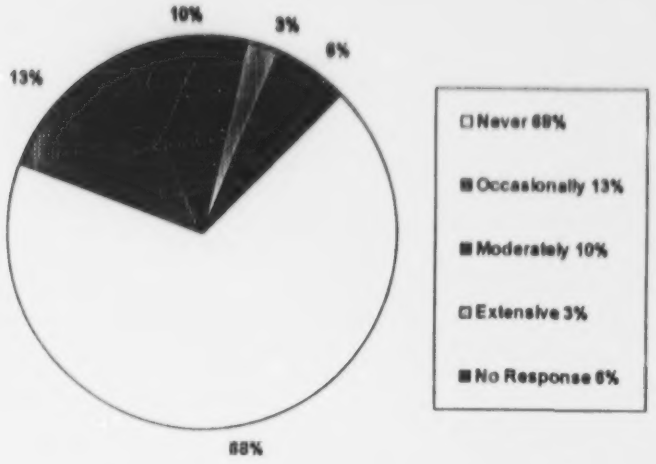

Figure 2.World Wide Web Usage

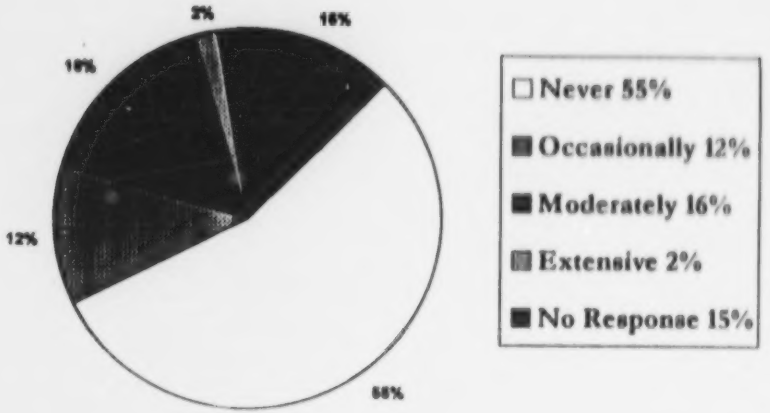

Figure 3. Listserv Usage

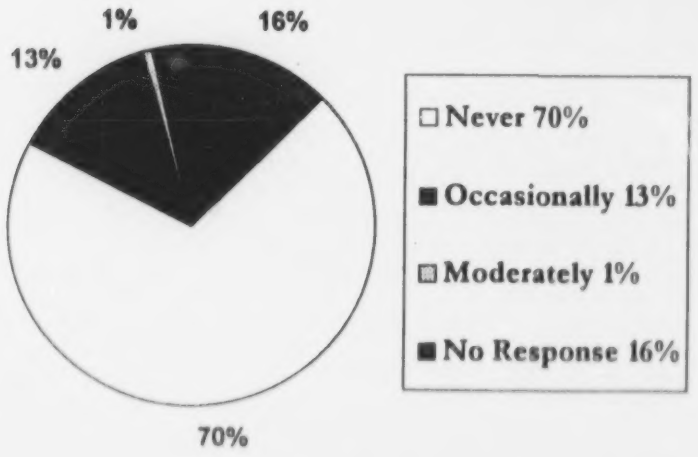

Figure 4. Internet Classroom Instruction

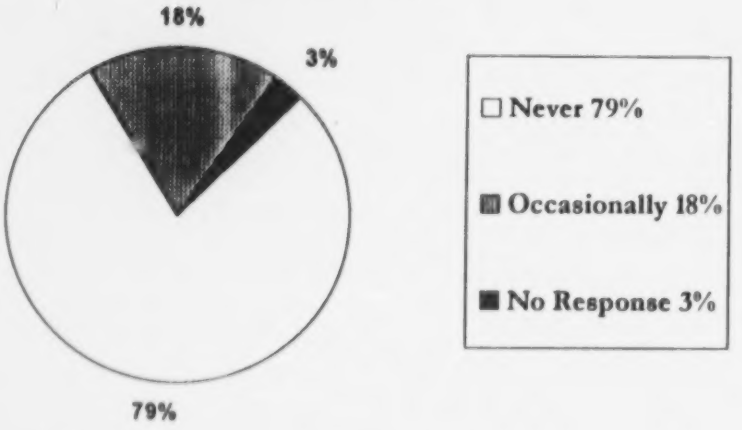

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Figure 5. Classroom Internet Access

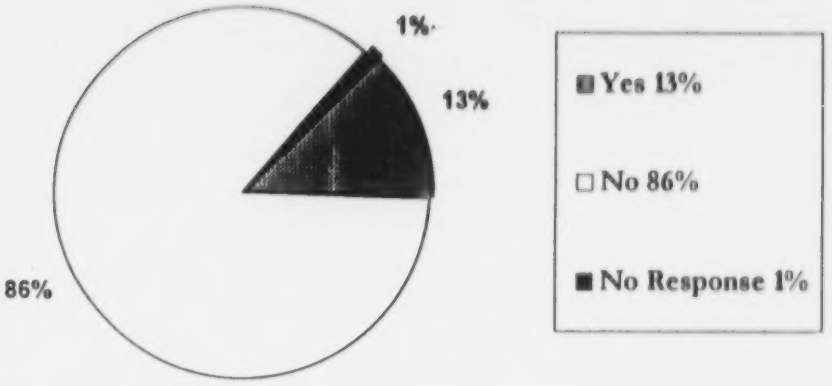

Figure 6. School Internet Access

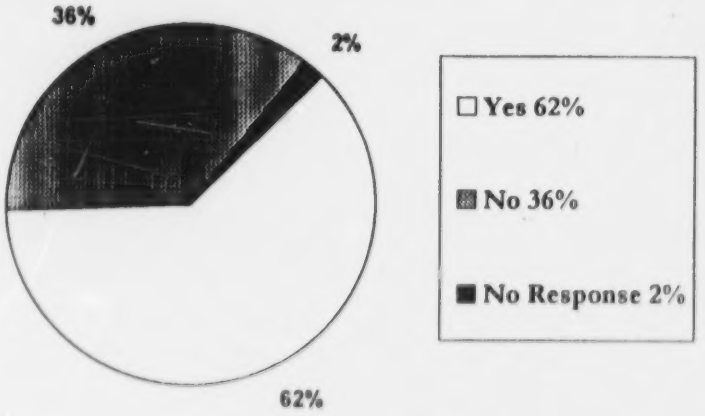

Figure 7. Location of School Internet Access

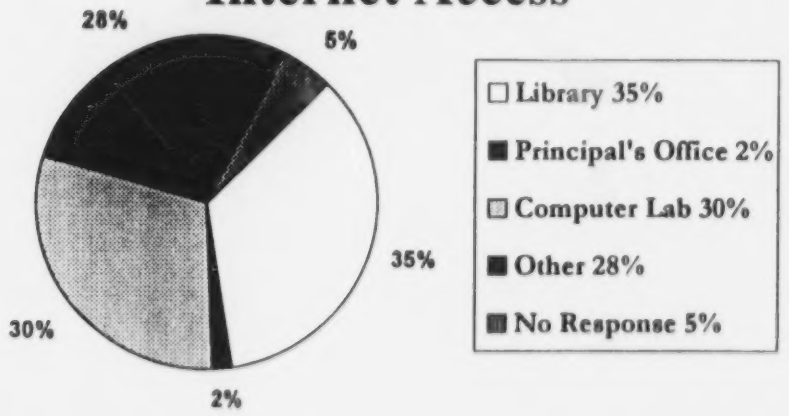

Figure 8. Internet Competence of Elementary Teachers

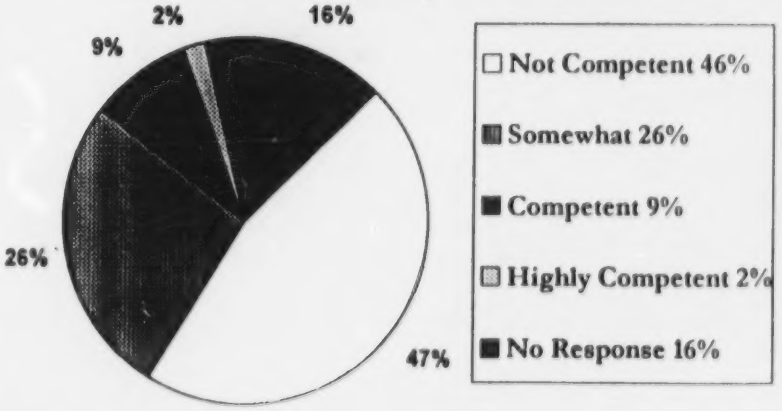

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Figure 9. Elementary Teacher's Need for Training

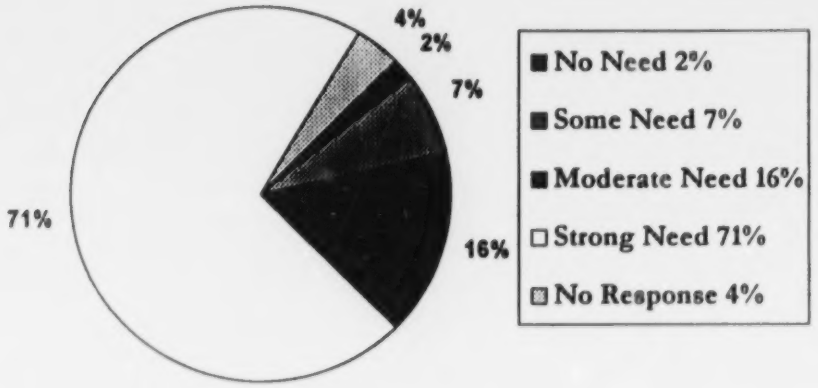


Figure 10. Need for Internet Equipment

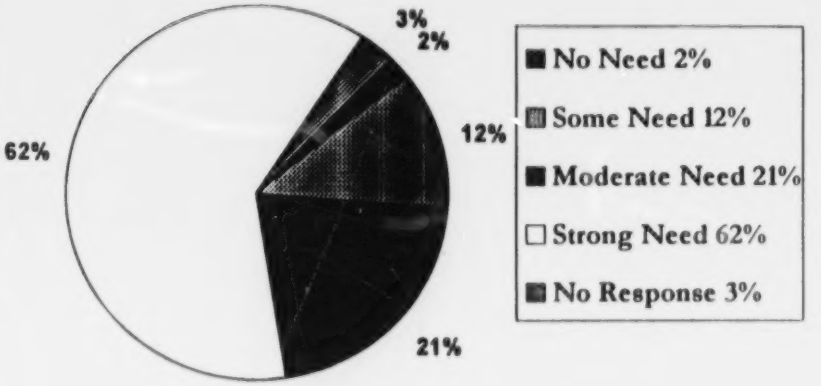


Figure 11. Need for Classroom Internet Access

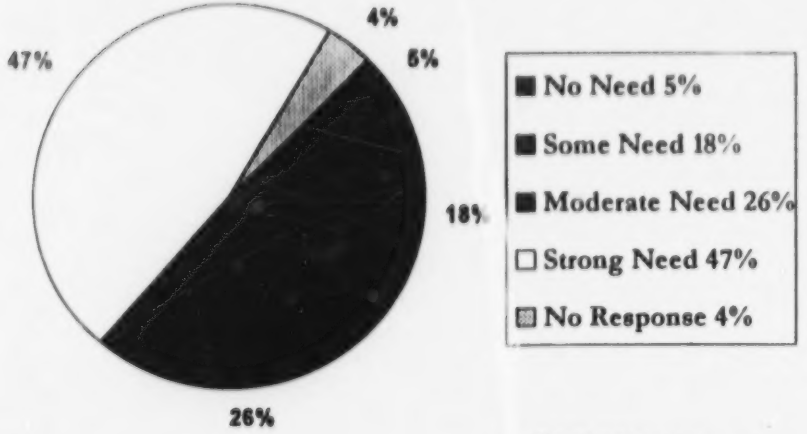
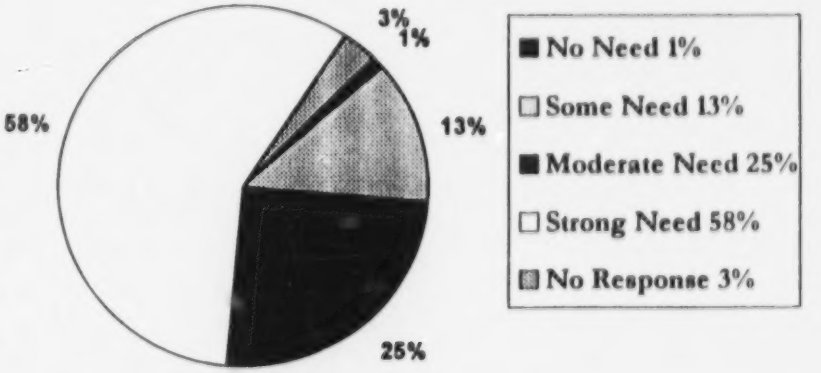


Figure 12. Need for Curricular Development Opportunities



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PROJECT-BASED LEARNING IN A UNIVERSITY PHYSICAL SCIENCE CLASS

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THE PROJECT

As a result of work as a university liaison in a University of South Dakota Professional Development Center with a seventh-grade ecology project-based class, the author has implemented project-based learning in his university physical science classes. The classes consists almost entirely of hands-on inquiry investigations. Activities vary from electrical decomposition of water into hydrogen and oxygen to constructing a model fly insect out of string, plastic bottle caps, paper and rubber bands for studying sound waves. The fly is "buzzed" around on the end of a string while a student reads the children's story "That Old Black Fly." Different thicknesses of rubber bands are used to study the effect of sound vibration. Daily lab reports and group process statements are scored using rubrics (see figure 1-3). No tests are administered. In place of tests, four project reports are given throughout the semester which are scored using a rubric. A carefully constructed rubric takes away the subjectivity and objectifies the outcome.

Students are required to keep a daily journal of their class perceptions which is part of a portfolio of all documents developed class. The portfolio provides a record of work completed which is useful in crosschecking completion of assignments at the end of the semester.

RATIONALE/PURPOSE:

The course is designed to develop rudimentary background in the physical sciences to help participants to become more comfortable in teaching science to elementary school students. Students develop skills in the manipulation of basic scientific apparatus and the design of physical science experiments. Everyday applications are stressed to enable individuals to make connections to the real world.

Each student is asked to join a Cooperative Team of two people. Cooperative teams perform experiments and experimental write-ups together. Each Cooperative Team is asked to hand in an Experimental Write-up at the beginning of each ensuing class period. The Experimental Write-up should consist of (1) a cover sheet rubric, (2) the written description of the experiment, and (3) the Team Process Rubric.

Each class period, one cooperative team member, called the Team Leader, is responsible for the Experimental Write-up and the other Cooperative Team member, the Team Processor, for the Team Process Sheet. The Team Leader will also be responsible for directing the experiment, while the Team Processor will serve as the "Getter" to find the experimental materials. The responsibilities are rotated each class period.

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Cooperative Groups of four are formed by two Cooperative Teams from contiguous stations. Each member of the Cooperative Group will be responsible for the learning of all of the group members. A portion of your grade will be determined on the basis of your group work. Therefore it is to the group's advantage to assure individual understanding of the concepts. The four-member Cooperative Groups will work during class-time and outside-of-class time (the general rule at the university is that you put in two hours of out-of-class time for every one hour of in-class-time).

Four oral Project Reports are given by each Cooperative Group during the semester. The Project Reports will indicate what each student has learned in class and how it apples to everyday life. Therefore, it is imperative that each student is certain her or she understands what is happening when in competing experiments, solving problems, and reading the textbook. The project reports will be divided up in equal time between the six Cooperative Groups. Each member of the group is asked to present an equally proportionate time from that allotted to the group. The use of group-constructed posters, commercial posters, video presentations, slide shows and computer renditions are encouraged. Material taken verbatim from textbooks, encyclopedias, etc. are not be acceptable. Students are encouraged to give presentations in the words of the members of the Cooperative Groups with a minimum of reference to notes.

Each project is required to have a "problem statement." The problem statement should be developed along the theme of: Describe how areas in the respective chapters under study apply to daily life.

A master copy of each project report is provided to the professor after each project presentation.

COMMENTS

Each class member is asked to keep a portfolio in a three-ring notebook with dividers and tabs in the following sequence: (1) journal entries, (2) experimental write-ups, (3) problem solutions, and (4) class notes (optional). Each member of the cooperative team is responsible for the learning of all of the team members.

All written materials are required be done using a computer word processor and printer except for the problem solution assignments, the graph for Experiment 2-2, The Double Pan Balance, and drawings of the apparatus on the experiments, which may be done freehand in ink. Tables are to be done either by setting up columns or by importing a small spreadsheet.

Because the class activities are conducted primarily in the laboratory, it is imperative that the students attend all classes. It is not possible to make up experiments because laboratory materials need to be gathered and stored to allow

other classes to use the room. In the event of an absence, students are required to write a one-page paper (typewritten, single-spaced) on the topic (not the experiment) for each class period missed. Class absences prior to and after vacation periods count double points.

GRADE DETERMINATION

Grades are determined entirely on the basis of activities for the class. In order to give appropriate weighting to various activities, the potential total points becomes quite large, as can be seen in the following "grade determination schedule."

Orientation Assignment--	(01 @ 40) -----	40	
Experiments ----------	(30 @ 10) ----	300	1600 - 1440 = A
Problems ----------	(04 @ 30) ----	120	1439 - 1280 = B
Portfolios ----------	(01 @ 240) ----	240	1279 - 1120 = C
Group Processor Reports	(22 @ 10) ----	160	1119 - 960 = D
Project Reports ------	(04 @ 100) ----	400	<960 = F
Attendance ----------	(34 @ 10) ----	340	
		1,600	

OUTCOMES

The author has used the project-based approach for the past two semesters. At midterm of the fall of 1996 semester, the students were assessed as to their perceptions of the project approach. Of the 50 students in the class, all but two students expressed complete satisfaction with the approach. None of the students preferred to go back to the conventional methods of learning.

Again, at midterm of the spring of 1996 semester, students were asked to respond on a blank sheet of paper as to their perceptions of project-based learning. Students were encouraged to not identify themselves unless they had a desire to do so. The professor stated that he wanted honest answers to help in deciding to continue with the project method or revert to conventional methods. As with the previous semester, acceptance of the project approach was overwhelming. Only three students out of a total of 48 expressed some frustration with the project method, but still desired to continue with projects vs. Taking tests. A recurring comment was that with the project method one really has to learn the material in relating it to everyday experiences, whereas in taking tests, on just memorizes as much as possible and then forgets it. A number of students expressed frustration in meeting with their group outside of class as they commute fairly large distances and have varying schedules for classes.

Is the project method of learning superior to conventional methods of teaching science? Considerable evidence from the project described here indicates that it is. In making it successful the teacher needs carefully determined plans,

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objectives, and outcomes to the point he/she knows exactly where he/she is heading, how the students will be arranged, what the expectations are, and how it will be brought about. The teacher needs to carefully plan rubrics for assessment, keeping in mind that paperwork can easily inundate the teacher. The secret is to have just the right amount of assessment materials to get the job done, but no more.

As a personal observation, the author definitely feels that he knows what his students in the class know and do not know. It is exciting to read the journals and see the pattern of maturity and classroom comfort development in the students. At the beginning of the semester, the students tend to be apprehensive of doing group work and presenting in front of a group of their peers. They state that they have had bad experiences in the past in working on group projects, due to some people not carrying their share of the load. It appears that the Group Process rubric alleviates this problem for the most part. By the same token they recognize the necessity of making presentations as part of the teaching profession.

Figure One

____ Total Points (max of 10) Section # _____

Expt. # _____

Group Processor Form
ELED-121 Physical Science For Elementary Teachers

Name: _____ Partner(s) Name(s) _____

Date: _____ _____

Areas of focus to Consider:

- What did the members discuss concerning the experiment?
  1. What were your hypotheses?
  2. What were your observations?
  3. Which hypotheses turned out to be wrong? Why?
  4. Which hypotheses turned out be correct? Why?
  5. Which observations reinforced your hypotheses? How?

- Does everyone on your Cooperative Team understand what the experiment was about? How do you know?

- What level of cooperation took place?

- Areas of conflict within the group.

Group Process Summary

Figure Two

___ Total Points Section ____

ELED-121

PHYSICAL SCIENCE FOR ELEMENTARY TEACHERS
ANALYTIC RUBRIC FOR LABORATORY EXPERIMENTS

_____ _____ _____
(name) (partner #1) (partner #2)

_____ _____ _____
Expt No. Name of the experiment Date

Professor's Score Total Possible points = Ten

___ STATEMENT OF THE PURPOSE - One Point

Adequately communicates what is being sought and/or resolved

___ DESCRIBED HOW EVIDENCE WAS GATHERED TO ANSWER THE QUESTION - three Points

Enough description of the experimental processes given in order for another person(s) could easily duplicate the experiment
Detailed, appropriate, and precise observations are systematically recorded and easily interpreted
Class data are included along with averages where appropriate
Data are placed in a table and graphed when appropriate

___ WHAT DOES IT ALL MEAN (Very Important)? - Four Points

An understanding of the findings is clearly demonstrated
You clearly stated what your evidence indicated to you
You related your conclusions to the data collected
You clearly justified your conclusions as appropriate using adequate detail

___ PRESENTATION - Two Points

Communication is clear and information Is consistently well organized
Neatness is adequately demonstrated
Presentation is concise and to the point

Please sign here verifying that you or your partner(s) can adequately explain the experiment if questioned by the professor (minus a point for every question missed)

_____
(name) (date)

Figure Three

Section #___

ELED-121
Group Project Presentation

Group Name: _____ Date: _____

Names of Group Members: Project #: _____

_____ _____

_____ _____

_____ _____

_____ _____

Points Possible: (100 Points)

Stating of the problem (5) ____

Solution of the Problem (5) ____

Creativity (8): ____

Originality (8) ____

Use of visual aides (8): ____

Individual contributions - Equal contributions (20) ____

How well it relates to the topics under study (8) ____

Demonstrates knowledge of subject (individual & group) (30) ____

Of interest to audience (8) _____

Total Points Earned ____

Comments

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AN IN-DEPTH STUDY OF THE CALDECOTT AND NEWBERY AWARD WINNERS, CONTINUED

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When an educator selects picture books to be used in the classroom he/she should always consider award winning books. For picture books the Caldecott Award is the most prestigious and well-known. The Award is named for Randolph Caldecott, a nineteenth century English illustrator of children's books. This Award has been give since 1938 on an annual basis to the artist who is a citizen or resident of the United States. This person must have created the most distinguished children's picture book published during the preceding year. The Award is granted for artistic quality including line, color, shape, texture and medium. It is presented by the American Library Association (ALA). A selection committee from ALA presents these awards, with a Gold Medal for the best book in the field and Silver Medals for the Honor Books (Immroth, 1990).

When considering chapter books to use in the classroom, again one must consider award winning books. For chapter books the Newbery Award is the most prestigious and well-known. The Award is named for John Newbery. who was one of the first publishers of book especially for children. The Award is give to a writer who is a citizen or resident of the United States. The literature may be in form of fiction, nonfiction, and poetry. The criteria used in selecting the outstanding chapter book includes: interpretation of the theme or concept, presentation of information including accuracy, clarity, and organization, development of plot, delineation of characters, delineation of setting and appropriateness of style. This award is granted by the American Library Association. The selection committee presents the John Newbery Award of a Gold Medal to the outstanding book for that year. Also, the ALA presents a certificate to the Newbery Honor books (Peterson, 1982).

This research is a continuation of a study completed in 1996. The basis for the research were questions asked by student in the undergraduate Children's Literature class taught at the University of South Dakota. The continued research looked at the trends by decades of the Caldecott and Newbery Winning Books, genres represented in decade of the Caldecott and Newbery Books, and information concerning the award-winning illustrators.

WHAT ARE THE TRENDS BY THE DECADES IN THE CALDECOTT AWARD WINNERS?

THE CALDECOTT AWARD WINNERS BY DECADES ARE AS FOLLOWS:

1938-1939 -- Traditional (1), Contemporary Realistic Fiction (0), Fantasy (0), Poetry (0), Historical Fiction (0), Science Fiction (0), Autobiography/Biography (0), Multicultural (1), and Informational (0).

1940-1949 -- Traditional (2), Contemporary Realistic Fiction (2), Fantasy (0), Poetry (1), Historical Fiction (2), Science Fiction (0), Autobiography/Biography (1), Multicultural (0), and Informational (2).

1950-1959 -- Traditional (4), Contemporary Realistic Fiction (2), Fantasy (0), Poetry (0), Historical Fiction (3), Science Fiction (0), Autobiography/Biography (0), Multicultural (0), and Informational (1).

1960-1969 -- Traditional (5), Contemporary Realistic Fiction (2), Fantasy (2), Poetry (0), Historical Fiction (0), Science Fiction (0), Autobiography/Biography (0), Multicultural (1), and Informational (0).

1970-1979 -- Traditional (7), Contemporary Realistic Fiction (0), Fantasy (0), Poetry (0), Historical Fiction (0), Science Fiction (0), Autobiography/Biography (0), Multicultural (3), and Informational (0).

1980-1989 -- Traditional (3), Contemporary Realistic Fiction (1), Fantasy (2), Poetry (0), Historical Fiction (1), Science Fiction (1), Autobiography/Biography (1), Multicultural (1), and Informational (0).

1990-1997 -- Traditional (1), Contemporary Realistic Fiction (2), Fantasy (1), Poetry (0), Historical Fiction (1), Science Fiction (1), Autobiography/Biography (0), Multicultural (2), and Informational (1).

WHAT ARE THE TRENDS BY THE DECADES IN THE COLDECOTT HONOR WINNERS?

THE CALDECOTT HONOR WINNERS BY DECADES ARE AS FOLLOWS:

1938-1939 -- Traditional (5), Contemporary Realistic Fiction (1), Fantasy (0), Poetry (0), Historical Fiction (0), Science Fiction (0), Autobiography/Biography (0), Multicultural (0), and Informational (1).

1940-1949 -- Traditional (8), Contemporary Realistic Fiction (7), Fantasy (2), Poetry (2), Historical Fiction (2), Science Fiction (0), Autobiography/Biography (1), Multicultural (5), and Informational (6).

1950-1959 -- Traditional (14), Contemporary Realistic Fiction (9), Fantasy (5), Poetry (1), Historical Fiction (1), Science Fiction (0), Autobiography/Biography (1), Multicultural (2), and Informational (5).

1960-1969 -- Traditional (11), Contemporary Realistic Fiction (6), Fantasy (0), Poetry (1), Historical Fiction (0), Science Fiction (0), Autobiography/Biography (0), Multicultural (1), and Informational (3).

1970-1979 -- Traditional (11), Contemporary Realistic Fiction (3), Fantasy (1), Poetry (2), Historical Fiction (0), Science Fiction (0), Autobiography/Biography (0), Multicultural (8), and Informational (4).

1980-1989 -- Traditional (10), Contemporary Realistic Fiction (2), Fantasy (3), Poetry (2), Historical Fiction (2), Science Fiction (0), Autobiography/Biography (0), Multicultural (7), and Informational (2).

1990-1997 -- Traditional (8), Contemporary Realistic Fiction (2), Fantasy (1), Poetry (0), Historical Fiction (1), Science Fiction (0), Autobiography/Biography (1), Multicultural (6), and Informational (4).

WHAT ARE THE TRENDS BY THE DECADES IN THE NEWBERY AWARD WINNERS?

THE NEWBERY AWARD WINNERS BY DECADES ARE AS FOLLOWS:

1922-1929 --Traditional (2), Contemporary Realistic Fiction (0), Fantasy (0), Poetry (0), Historical Fiction (5), Science Fiction (0), Autobiography/Biography (0), Multicultural (0), and Informational (1).

1930-1939 -- Traditional (1), Contemporary Realistic Fiction (1), Fantasy (1), Poetry (0), Historical Fiction (3), Science Fiction (0), Autobiography/Biography (1), Multicultural (3), and Informational (0).

1940-1949 -- Traditional (0), Contemporary Realistic Fiction (0), Fantasy (3), Poetry (0), Historical Fiction (5), Science Fiction (0), Autobiography/Biography (1), Multicultural (1), and Informational (0).

1950-1959 -- Traditional (0), Contemporary Realistic Fiction (3), Fantasy (0), Poetry (0), Historical Fiction (5), Science Fiction (0), Autobiography/Biography (1), Multicultural (1), and Informational (0).

1960-1969 -- Traditional (0), Contemporary Realistic Fiction (5), Fantasy (1), Poetry (0), Historical Fiction (1), Science Fiction (1), Autobiography/Biography (1), Multicultural (1), and Informational (0).

1970-1979 -- Traditional (1), Contemporary Realistic Fiction (4), Fantasy (1), Poetry (0), Historical Fiction (2), Science Fiction (0), Autobiography/Biography (0), Multicultural (2), and Informational (0).

1980-1989 -- Traditional (1), Contemporary Realistic Fiction (3), Fantasy (0), Poetry (2), Historical Fiction(3), Science Fiction (0), Autobiography/Biography (1), Multicultural (0), and Informational (0).

1990-1997 -- Traditional (0), Contemporary Realistic Fiction (5), Fantasy (0), Poetry (0), Historical Fiction (2), Science Fiction (1), Autobiography/Biography (0), Multicultural (0), and Informational (0).

WHAT ARE THE TRENDS BY THE DECADES IN THE NEWBERY HONOR WINNERS?

THE NEWBERY HONOR AWARD WINNERS BY DECADES ARE AS FOLLOWS:

1922-1929 -- Traditional (6), Contemporary Realistic Fiction (0), Fantasy (2), Poetry (0), Historical Fiction (8), Science Fiction (0), Autobiography/Biography (2), Multicultural (0), and Informational (0).

1930-1939 -- Traditional (8), Contemporary Realistic Fiction (3), Fantasy (2), Poetry (0), Historical Fiction (27), Science Fiction (0), Autobiography/Biography (6), Multicultural (1), and Informational (2).

1940-1949 -- Traditional (2), Contemporary Realistic Fiction (5), Fantasy (2), Poetry (0), Historical Fiction (14), Science Fiction (0), Autobiography/Biography (8), Multicultural (3), and Informational (3).

1950-1959 -- Traditional (2), Contemporary Realistic Fiction (5), Fantasy (2), Poetry (0), Historical Fiction (13), Science Fiction (0), Autobiography/Biography (7), Multicultural (8), and Informational (4).

1960-1969 -- Traditional (8), Contemporary Realistic Fiction (7), Fantasy (2), Poetry (0), Historical Fiction (3), Science Fiction (0), Autobiography/Biography (2), Multicultural (0), and Informational (3).

1970-1979 -- Traditional (4), Contemporary Realistic Fiction (7), Fantasy (3), Poetry (0), Historical Fiction (5), Science Fiction (1), Autobiography/Biography (0), Multicultural (4), and Informational (1).

1980-1989 -- Traditional (4), Contemporary Realistic Fiction (13), Fantasy (1), Poetry (0), Historical Fiction (0), Science Fiction (0), Autobiography/Biography (3), Multicultural (4) and Informational (1).

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1990-1997 -- Traditional (4), Contemporary Realistic Fiction (8), Fantasy (0), Poetry (0), Historical Fiction (6), Science Fiction (1), Autobiography/Biography (2), Multicultural (0), and Informational (1).

WHAT GENRES ARE REPRESENTED IN EACH DECADE FOR THE CALDECOTT AWARD AND HONOR WINNERS?

CALDECOTT AWARD WINNERS INCLUDE:

1938-1939 -- Traditional and Multicultural (2).

1940-1949 -- Traditional, Contemporary Realistic Fiction, Poetry, Historical Fiction, Autobiography/Biography, and Informational (6).

1950-1959 -- Traditional, Contemporary Realistic Fiction, Historical Fiction, and Informational (4).

1960-1969 -- Traditional, Contemporary Realistic Fiction, Fantasy, and Multicultural (4).

1970-1979 -- Traditional and Multicultural (2).

1980-1989 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Science Fiction, Autobiography/Biography, Multicultural, and Informational (7).

1990-1997 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Science Fiction, Multicultural, and Informational (7).

CALDECOTT HONOR WINNERS INCLUDE:

1938-1939 -- Traditional, Contemporary Realistic Fiction, and Informational (3).

1940-1949 -- Traditional, Contemporary Realistic Fiction, Fantasy, Poetry, Historical Fiction, Autobiography/Biography, Multicultural, and Informational (8).

1950-1959 -- Traditional, Contemporary Realistic Fiction, Fantasy, Poetry, Historical Fiction, Autobiography/Biography, Multicultural,and Informational (8).

1960-1969 -- Traditional, Contemporary Realistic Fiction, Poetry, Multicultural and Informational (5).

1970-1979 -- Traditional, Contemporary Realistic Fiction, Fantasy, Poetry, Multicultural and Informational (6).

1980-1989 -- Traditional, Contemporary Realistic Fiction, Fantasy, Poetry, Historical Fiction, Multicultural, and Informational (7).

1990-1997 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Autobiography/Biography, Multicultural, and Informational (7).

WHAT GENRES ARE REPRESENTED IN EACH DECADE FOR THE NEWBERY AWARD AND HONOR WINNERS?

NEWBERY HONOR WINNERS INCLUDE:

1928-1929 -- Traditional, Historical Fiction and Informational (3).

1930-1939 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Autobiography/Biography, and Multicultural (4).

1940-1949 -- Fantasy, Historical Fiction, Autobiography/Biography, Multicultural (4).

1950-1959 -- Contemporary Realistic Fiction, Historical Fiction, Autobiography/Biography, and Multicultural (4).

1960-1969 -- Contemporary Realistic Fiction, Fantasy, Historical Fiction, Science Fiction, Autobiography/Biography, and Multicultural (6).

1970-1979 -- Traditional, Contemporary Realistic Realistic, Fantasy, Historical Fiction, and Multicultural (5).

1980-1989 -- Traditional, Contemporary Realistic Fiction, Poetry, Historical Fiction, and Autobiography/Biography (5).

1990-1997 -- Contemporary Realistic Fiction, Historical Fiction, and Science Fiction (3).

NEWBERY HONOR WINNERS INCLUDE:

1928-1929 -- Traditional, Fantasy, Historical Fiction, and Autobiography/Biography (4).

1930-1939 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Autobiography/Biography, Multicultural, and Informational (7).

1940-1949 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Autobiography/Biography, Multicultural, and Informational (7).

1950-1959 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Autobiography/Biography, Multicultural, and Informational (7).

1960-1969 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Autobiography/Biography, and Informational (6).

1970-1979 -- Traditional, Contemporary Realistic Fiction, Fantasy, Historical Fiction, Science Fiction, Multicultural and Informational (7).

1980-1989 -- Traditional, Contemporary Realistic Fiction, Fantasy, Autobiography/Biography, Multicultural, and Informational (6).

1990-1997 -- Traditional, Contemporary Realistic Fiction, Historical Fiction, Science Fiction, Autobiography/Biography, and Informational (7).

HOW MANY ILLUSTRATORS HAVE WON THE CALDECOTT AWARD MORE THAN ONCE?

In the years since the Caldecott Awards was instituted in 1938, more than 100 illustrators have illustrated picture books that have won a Caldecott Award or been named an Honor book. Our research revealed that of those 55 illustrators have won the award or honor more than once. How many illustrators are also the authors of the book they illustrated?

Thirty of these artists are also the authors of the books they illustrated. Six of the illustrators have won the Caldecott Award twice. They are Chris Van Allsburg, Robert McCloskey, Marcia Brown, Barbara Cooney, Nanny Hogragain, and a husband-wife team Diane and Leon Dillon. Surprisingly there are 4 husband-wife illustrator teams among the list with an award winner and honor book on the Caldecott list. Berta and Elmer Hader, Maude and Miska Peterstrom, Alice and Martin Provensen are the 3 other teams.

HOW MANY ILLUSTRATORS HAVE WON THE CALDECOTT HONOR AWARD MORE THAN ONCE AND WHO HAS THE MOST WINNERS IN THE HONOR CLASS?

Some illustrators have won the Caldecott Honor Book Award multiple times. Marcia Brown and Maurice Sendak have each won this award 6 times. Marcia Brown has the most winners and honors for a total of 8 Caldecott books to her credit. Maurice Sendak follows with a close second of 7 books.

WHO ARE THE MOST MODERN ILLUSTRATORS WHO HAVE WON THE CALDECOTT AWARD OR HONOR AWARD?

Further examination of the list of Caldecott Winner and Honor books show the most recent modern illustrators to be: Ed Young, Jerry Pinkney, Allen Say, Paul Zelinsky and David Wiesner.

WHAT ARTISTIC MEDIUM HAS BEEN THE MOST USED IN THE CALDECOTT WINNERS OF THE LAST TEN YEARS?

The most common medium used in the illustration of the Caldecott winning picture books in the last ten years is watercolor.

HOW MANY CALDECOTT ILLUSTRATORS HAVE ALSO ILLUSTRATED NEWBERY BOOKS?

It is also interesting to note that of the 55 illustrators who have illustrated Caldecott books in the past 59 years, that many of these illustrators have illustrated our favorite Newbery Award and Honor books. In fact, forty of the fifty-five illustrators have illustrated at least one Newbery book and some as many as six.

This research project has led the researchers to an appreciation of the variety of ways to use the award winning Caldecott and Newbery books and note their continued variety and excellence of writing and illustrations over the past years.

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SUCCESSFUL INCLUSION: TEACHERS' PERCEPTIONS

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Research over the last 20 years has shown that inclusive programs are an effective way to provide services to young children with disabilities (McLean & Hanline, 1990; Salisbury & Vincent, 1990; Diamond, Hestenes, O'Connor, 1994). In inclusive or integrated programs, young children with disabilities are educated in classrooms and programs along with their peers who do not have identified disabilities (McLean & Hanline, 1990). Research on inclusion was conducted in South Dakota in several districts that were successfully implementing inclusive programs. The purpose of the research was to find out what challenges and barriers the professionals and parents in these districts had faced, how they had overcome these barriers, and what suggestions they would have for other districts trying to implement inclusion. This research was conducted in order to provide models that other professionals and parents could follow as they worked toward implementing inclusion in their own districts.

BACKGROUND

This research was conducted by the South Dakota Early Childhood Inclusion Support Project, which was funded by the South Dakota Office of Special Education, in conjunction with the South Dakota University Affiliated Program and the University of South Dakota School of Education. The Inclusion Project was designed to provide support, technical assistance, and materials for those working with young children in inclusive settings. The project began in 1995 by surveying all districts in the state to find out how many of their children, preschool through kindergarten, were in inclusive settings, what types of settings were being utilized, and whether they thought inclusion was the best practice for children with disabilities. Surveys were sent to Directors of Special Education in each district and Educational Cooperative in the state; 66% of the 178 districts and cooperatives responded. Survey results showed that although 79% of the districts that responded believed that inclusion was the best practice, only 12% were actually serving their children in an inclusive preschool setting. Seven percent indicated that they served their children in a Head Start program and 3% were serving children in preschool classrooms designed primarily for children without disabilities. Only 44% of the responding schools were serving their kindergarten children with special needs in the regular kindergarten classroom.

After the survey was completed, the Inclusion Project established a statewide network of professionals and parents who were willing to share their expertise and experiences with others who had questions about implementing inclusive practices, including a toll-free line they could call to get technical assistance. The project set up a statewide Early Childhood Inclusion lending library with videos, teacher resource books, children's books, materials, and equipment that could be used in inclusive settings. A member of the staff also wrote a 59 page annotated bibliography of children's books that cover all areas of disabilities that could be

accessed through inter-library loan across the state. A list of these resources, along with the networking list was put into a resource manual which was sent to every district and cooperative across the state (Jacobs & Wounded Head, 1997).

The project's next goal was to collect data and make a video that would provide information and models for districts trying to implement inclusion. With the help of the project's advisory committee they identified a number of districts that were successfully implementing inclusion. The districts were contacted and asked if they would like to participate in the research. Parents and professionals, including administrators, teachers, and therapists from five districts and one cooperative were interviewed and videotaped. Sixteen teachers were interviewed, including five kindergarten teachers, one kindergarten/first grade teacher, six early intervention preschool teachers, two Head Start teachers, and two preschool teachers.

BARRIERS

The two barriers identified most often by the teachers who were interviewed involved team issues and issues involved with funding and logistics. Eleven of the teachers mentioned that they had faced challenges in the area of teamwork, including working out philosophies, dealing with change, sharing expertise, communication, differing expectations, personality conflicts between teachers, and defining job duties. Eleven teachers also mention funding and logistic challenges that included transportation, food and mealtime concerns, and finding adequate, accessible space.

Five teachers felt that being able to meet the needs of all the children in their programs was a barrier they faced. Fear, lack of planning time, and lack of training were each identified by three teachers. Two said that attitudes of others became a barrier. There were several other barriers that teachers named, with each one being mentioned once. The first of these was finding available preschools. This is especially a problem in more rural areas where there may be no preschool programs in existence. Another barrier was teachers' uncertainty about how to implement inclusion, as well as determining which children should be included in the program. One teacher said that licensing issues became a barrier. The final barrier mentioned was the sheer amount of issues that needed to be addressed when starting an inclusive program. These barriers are similar to those faced by other teachers and professionals nationwide (Rose & Smith, 1993).

CONCERNS

When asked what concerns teachers had experienced in the process of becoming more inclusive, teachers expressed similar ideas. Three teachers mentioned concerns dealing with scheduling and planning. They found it hard to find the time to plan as a team but well worth the effort they put into it. Two

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teachers said that they had concerns facing the challenge of meeting everyone's needs in an inclusive environment. Two teachers stated that there were concerns about finding appropriate space for their inclusive classrooms. Two others related that they had experienced some fear of the unknown as their programs began.

Other concerns were each mentioned once. One teacher said there was concern by some teachers over giving up some control as therapists now became part of the team working in the classrooms. Another had concerns about finding the support needed to work with children of varying abilities. One teacher said she had concerns about learning to modify teaching techniques in order to fit individual needs and another mentioned a lack of training. One final concern mentioned dealt with knowing how to help children with special needs become more independent.

SUGGESTIONS

Teachers who had successfully implemented inclusion had many suggestions and recommendations for others attempting to establish inclusive programs. Fifteen of the 16 teachers said teamwork and communication were essential to the success of inclusion. They said that becoming familiar with other people on the team made a difference, as well as setting expectations on a continuous basis.

Eight teachers said it was important to believe in inclusion and then work to make it a reality. Seven teachers recommended making planning a priority, starting off one step at a time and working at staying organized. Five teachers advised finding the support and resources available, stressing that there were many resources, such as lending libraries, courses, technical assistance, etc. that were readily available to them when needed. Four recommended keeping an open mind and four others mentioned the importance of remaining flexible throughout the process.

Four teachers recommended that finding appropriate facilities made a real difference. They mentioned that having a bathroom and sink nearby, being close to an exit, and having appropriate playground equipment enhanced the program. Three teachers recommended that staff and parents should have opportunities for training and have models of other inclusive programs to follow. One final suggestion was that having a willing classroom teacher contributed to the success of inclusion.

CONCLUSION

When these teachers who were working in inclusive settings were asked if inclusion had been good for their children with disabilities, 15 responded that it had definitely been good for them. This corresponds with research nationally which has shown inclusive programs to be beneficial to children with special needs (Cavallaro, Haney, & Cabello, 1993; Guralnick, 1990). One teacher said that it was good, but

thought that some children did get missed in this process. All sixteen teachers said that inclusion had been good for their children without disabilities. They mentioned that the children without disabilities had become more empathetic, compassionate, and accepting by being in an inclusive environment.

Nine teachers said that inclusion had not affected the number of children they served, while four teachers said inclusion had increased the number of children that received services. One teacher said that the number of children who were served had increased but she wasn't sure if this was due to inclusion. All 16 teachers overwhelmingly responded that they do recommend that schools offer an inclusive program.

Comments and recommendations from these teachers, other professionals and parents are compiled in a video produced by the Inclusion Project, Inclusion: Celebrating Children's Successes. This research and similar efforts provide information, suggestions, and models other districts can follow as they create inclusive environments for their young children with special needs.

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COMPARING THE EFFECTS OF TEACHER-DIRECTED HOMEWORK AND STUDENT-CENTERED HOMEWORK ON RETURN RATE AND HOMEWORK ATTITUDES OF MINORITY STUDENTS WITH LEARNING DISABILITIES

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OBJECTIVES

The issue of the home-community connection with our schools has received major attention within the field of education, with out-of-school learning seen as especially important and valuable to the process of learning. One traditional area within the home-school connection is homework. Yet, most current homework research in special education has been based on a traditional, reductionistic perspective in defining, assessing, and instructing those students identified with learning disabilities (Poplin, 1998), thereby viewing homework as practice, preparation, and extension of classroom skills assigned by teachers (Lee & Pruitt, 1979).

Concern is especially strong with students identified as learning disabled, as dropout and unemployment rates tend to generally be higher for them than for other students, with academic underachievement being the most common characteristic. In particular, Ogbu (1987) points out that "a disproportionate number of minority children are channeled into special education..." (p. 319). Furthermore, students with learning disabilities tend to experience more homework problems, especially in areas of motivation and distractibility (Polloway, Foley & Epstein, 1992).

In response to concerns issued by researchers (e.g., Bursuck, 1994; Mercer & Mercer, 1993; Polloway et al., 1992; Salend & Schliff, 1989), the following hypotheses for this study were proposed: 1) Student-centered homework assignments will increase return rates of these students, when provided with alternative types of assignments. 2) In particular, those students having a high baseline return rate with teacher-directed homework as well as those having a low baseline return rate with teacher-directed homework will increase return rate student-centered homework, as compared to teacher-directed homework. 3) Participating students will prefer student-centered homework assignments, when provided with alternative types of assignments. 4) Parents' homework type preference will be related to their own experiences as well as reflecting their children's homework attitudes.

PERSPECTIVES

Although there is a significant amount of literature on homework, much is dominated by a traditional model of learning which focuses on use of homework for practice, repetition and extension of teacher-initiated and directed classroom goals. In the particular area of special education with learning disabled students, most homework studies have assumed a teacher-directed orientation toward homework. Traditional homework assignments are commonly represented by activities that reflect teacher/textbook goals, oftentimes expressed in formalized pre-written lesson plans. Examples

include answering end-of-chapter textbook questions, writing definitions to teacher chosen vocabulary words, or completing worksheets not finished in class.

More recently, the influence of a social constructivist perspective is being felt in teaching and learning, especially in the area of literacy. Briefly, this perspective emphasizes that leaning develops from interaction with others, with meaning being a social creation (Vygotsky, 1978). Therefore, in order for learning experiences to be motivating, the learner's interaction with the real world needs to be incorporated. Rueda and Moll (1994) point out that children appear more motivated to learn when conditions are authentic, meaningful, jointly constructed with peers/teachers, and are within their reach. From a current constructivist perspective, then, homework would be student-centered rather than teacher-directed. These particular assignments would be initiated by the students and/or jointly constructed with peers and/or the teacher. Student-centered homework would be more apt to reflect the student's home/community world in a realistic and meaningful way. From a social constructivist theory, this type of homework would also provide a more natural challenge for the student while also encouraging support and assistance from more capable others in and out of the classroom. Examples would include writing authentic letters, writing on personally chosen topics, completing an art project of personal interest.

METHODS

An adapted alternating treatments design (Barlow & Hayes, 1979) was used in the first part of this study to compare the return rates between traditional teacher-directed homework assignments and student-centered homework assignments. Alternating treatment designs are useful when comparing two treatments that use a single subject or single group as its own control in a study. Teacher-directed homework reflected assignments typically offered to students with learning disabilities, mirroring traditional theoretical frameworks, such as a behaviorist perspective. Examples included teacher-chosen vocabulary to define, ready-made worksheets to complete, and teacher-initiated essay prompts to write from. Student-centered homework reflected assignments created by students with or without adult support, representing authentic-meaningful activities and affording opportunity for home assistance and involvement. This non-traditional type of homework mirrored a contemporary social constructivist framework, emphasizing that learning develops from interaction with others. Examples from this study included journal, letter, and story formats on personal topics such as sports, family personal plans, television shows, and video games.

Descriptive research (Isaac & Michael, 1990) was used in the second part of the study, to examine student homework type preference, student general

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homework attitude, parent homework type preference, and parent general homework attitude. The purpose of descriptive research is to accurately depict facts and characteristics of a given group of participants or area of interest.

Following a 4-week baseline period of assigning only teacher-directed homework, participating students were randomly assigned teacher-directed or student-centered homework for 12 weeks. Students then completed homework surveys and writing prompts, followed by four student interviews and four parent interviews, each of which were randomly chosen.

DATA SOURCES

Forty students identified with learning disabilities participated in the study while attending a large public high school in the metropolitan Los Angeles area. 87% of the student participants were African American, with 10% being Hispanic and 3% Caucasian. 90% of the student participants cited English as their home language, with the remaining 10% citing Spanish as their home language. Males comprised 70% of the student sample. 87% of the student sample was enrolled in special education classes for most of the school day and the remainder enrolled in special education classes on a part-time schedule (resource). All participating students attended one of five departmental special education English classes taught by one of the authors. In addition, four randomly chosen parents of the student participants participated in the last part of the study.

RESULTS/CONCLUSIONS

Overall descriptive results found that student-centered homework return rates of all forty participating students increased by an average of 7% as compared to teacher-directed homework return rates, which decreased by an average of 7%. See Figure 1 for homework return rate means for overall combined group. Those 19 students with high baseline return rates of 25% or more increased student-centered homework return rates by an average of 1% while decreasing teacher-directed homework return rates by an average of 16%. Those 21 students with low baseline return rates of less than 25% increased student-centered homework return rates by an average of 13% while increasing teacher-directed homework return rates by lass than an average of 1%. See Figure 2 for homework return rate means for high baseline return group and low baseline return group.

Results from student homework surveys found that most participating students (86%) preferred non-traditional student-centered homework assignments over traditional teacher-directed homework assignments. Students' homework attitudes were qualitatively analyzed from surveys,

writing prompts, and interviews and were found to be related to factors such as: enjoyment level, understanding, empowerment, helpfulness, and value orientation. Qualitative results from the parent interviews indicated that parents had mixed feelings on homework type preference, reflecting homework attitude factors similar to their children's attitudes, as well as *unique, parent homework attitude* factors such as: interests of child, independence, amount of homework, home/school involvement, and home-school communication.

EDUCATIONAL/SCIENTIFIC IMPORTANCE

Combined results argue in favor of the following: closer examination and implementation of social constructivist educational opportunities for urban, secondary level, minority students with learning disabilities; further exploration of alternative teaching approaches with this particular population of students; and encouragement in assisting these students to actively create authentic, student-initiated learning opportunities, thereby encouraging and strengthening the home-school connection.

In particular, this study provided opportunity to reconsider how homework is conceptualized for those students identified as learning disabled who seldom return homework assignments. Providing opportunity for these students to create their own homework assignments (which are authentic, meaningful, and allow for assistance) may be a vehicle to extend their school learning. In addition, student-centered homework assignments may also provide opportunity for these students to decrease their homework problems, thereby increasing motivation with school related experiences while decreasing distractibility problems. Results of this study may also extend the existing knowledge on family homework type preferences and general homework attitudes of these students thereby providing more opportunity to explore alternative way to increase home-school involvement in the learning process.

And finally, this study may signify further opportunity for researchers and educators to consider alternative, social interaction learning perspectives with those students identified as learning disabled as well as opportunity to personally reflect on their own beliefs of learning and their assumptions on instruction.

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Figure 1

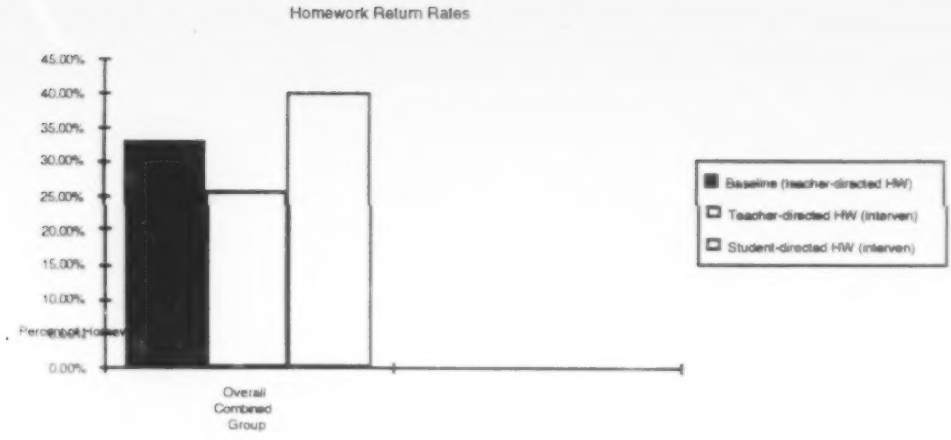
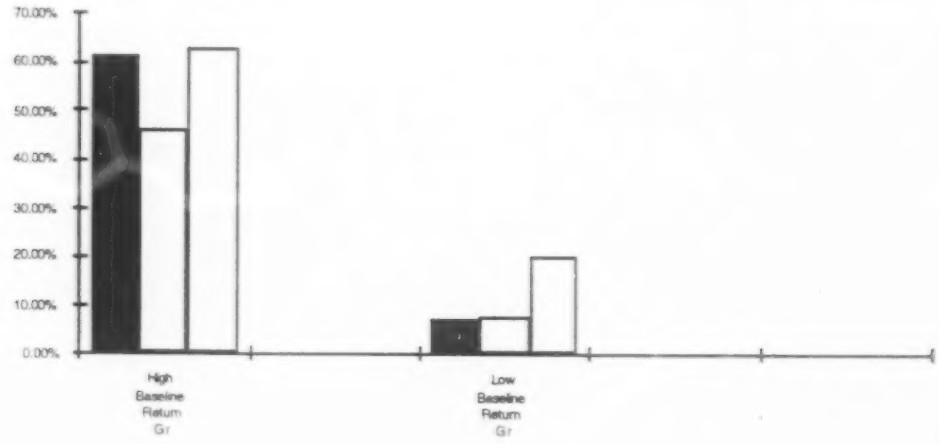


Figure 2



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THE EFFECTS OF CLASSROOM ENVIRONMENT ON CHILDREN'S ATTENTION

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Recently, Attention Deficit/ Hyperactivity Disorder(AD/HD) has been a "buzz" word for parents and teachers whose children manifest inattentive behavior and slow academic achievement in educational settings. The majority of the literature, therefore, has focused on the identification and diagnosis of this disorder (e.g., Cotugno, 1993; Schaughency & Rothlind, 1991), with the underlying assumption being that the disorder lies within the individuals. However, the literature has also shown that the outcome and severity of the disorder are greatly affected by environmental factors (Barkley, 1990).

Therefore, the purpose of this study was to demonstrate that the physical characteristics of the classroom setting(e.g., wall attachments, ceiling attachments, lighting, noises from the hall, arrangement of desks, student and adult ratios, proximity among students and from the teacher, etc.) may also cause children's attention to divert from teacher instruction, exacerbating the short attention span of young children, which is developmentally expected. In addition, the teaching styles and personal characteristics of the teachers which may override the environmental distractions were also explored.

METHOD

A total of 24 students enrolled in kindergarten, first grade, and second grade were selected at random from a midwestern rural school district. Using the Behavioral Observation Sheet (Appendix A), the students' on-task behavior was observed in their classroom twice for a peroid of 15 minutes each. Each observation period was followed by the narrative recording of teacher characteristics and instructional variables using the Teacher Characteristics Record Form (Appendix B) and the Instructional Variables Record Form (Appendix C). Upon completion of the classroom observations, physical characteristics of the classrooms were recorded on the Classroom Environmental Observation form (Appendix D).

Multiple regression was used to analyze the data. The criterion variable was on-task behavior, and the predictor variables consisted of the three components of the study: Teacher characteristics, Class Environment, and Instructional variables.

RESULTS AND DISCUSSION

Results of the multiple regression analyses revealed that the correlation between the predictor variables and criterion variable is not statistically significant (R Square = .21, $p<.19$). In other words, the teacher characteristics, instructional variables, and the physical characteristics of classroom environment are not significantly related to how much a child will pay attention in class. However, an examination of correlations between each predictor variable and the criterion variable indicated that there is a statistically significant correlation between the instructional variables and the on-task behavior ($r = .34$, $p<.05$), though the magnitude of the coefficient is marginal to have any practical significance.

Nevertheless, these results are promising, in that it substantiates the basic tenet in education that how the teacher delivers his/her instruction makes a difference in promoting student learning and motivation (Driscoll, 1994). Student attention and involvement are enhanced when their attention is initially captured through introductory focus, when the activities are personally relevant and meaningful, and when student learning is positively reinforced.

Limitations of this study including small sample size and the lack of reliability and validity data of the instruments utilized should be strengthened through replications in future research.

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APPENDIX A

Behavioral Observation Sheet

Student's ID:_____ Grade:_____ Date of Observation:_____

Teacher ID_____ Class Activity:_____

OBSERVATION # : _____

Time	Child Behavior	Teacher Behavior

APPENDIX B
TEACHER CHARACTERISTICS RECORD FORM

1. TEACHER MODELING-Teachers' attitudes and beliefs about teaching and learning in their classrooms communicated through modeling.

a) appropriate modeling
comments:

b) inappropriate modeling (e.g., "I know this stuff is boring, but we have to learn it." "This isn't my favorite topic either.")
comments:

2. TEACHER ENTHUSIASM-They care about what they teach and communicate to their students that what they are learning is important (e.g., Now isn't that interesting...That's what history is all about."). Enthusiasm is communicated through both verbal and nonverbal behaviors.

Check all that apply:

Vocal delivery	a) varies the pitch, loudness, and rate of delivery
Eyes	b) makes eye contact
	c) has animated eyes
Gestures	d) gestures frequently with head and arms
Body movement	e) moves from place to place
	f) has an energetic manner
	g) vitality, drive, and spirit
Language	h) uses descriptive language
	i) varies word selection

Others, specify:

3. TEACHER WARMTH AND EMPATHY-Warmth refers to teachers' abilities to demonstrate that they care for students as people; empathy is teachers' capacities for understanding how the students feel, what their point of view might be, or where they're "coming from".

a) Warmth
comments:

b) Empathy
comments:

4. TEACHER EXPECTATIONS-Teacher expectations for student behavior and achievement are communicated both verbally and nonverbally.

a) positive expectations
comments:

b) negative expectations
comments:

5. OTHER OBSERVED CHARACTERISTICS, positive or negative

comments:

APPENDIX C
INSTRUCTIONAL VARIABLES RECORD FORM

1. INTRODUCTORY FOCUS-A term used to describe the teacher's method of initially attracting student attention to a task or lesson.

a) effective introductory focus
comments:

b) ineffective introductory focus
comments:

2. PERSONALIZATION- An instructional variable that makes lesson content more meaningful for students through the use of intellectually and/or emotionally familiar examples. When direct personalization is difficult, analogies can be used effectively.
comments:

3. INVOLVEMENT

Check all that apply:

a) questioning
b) games
c) visual aids
d) group work
e) other, specify:

4. REINFORCEMENT

a) positive reinforcement
comments:

b) negative reinforcement
comments:

c) punishment
comments:

d) other, specify:

5. OTHER OBSERVED INSTRUCTIONAL VARIABLES

comments:

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APPENDIX D

CLASSROOM ENVIRONMENTAL OBSERVATION

Experimental Version **

© M. Urquhart, Ph.D. (1996)

Date:_____Time: _____ Observer:_____

Is this a typical day? _____yes ____no. If no, describe:
(Information from teacher)

Class description (grade, regular or sped., self contained, inclusion, etc.)	
# students	
# adults _____ mannerisms voice, etc.	
auditory distractors	
visual distractors	
proximity (people/activities)	
temperature	
room arrangement	
wall attachments type & % coverage	
ceiling attachments type & % coverage	
lighting	
hall activities	
non-scheduled events	
non-scheduled people	
other	
comments/ impressions	

** Describe each category in terms of noise, clutter, or salient features that may compete with instruction or interfere with the student's ability to attend to specific tasks.

~Add or comment on categories that were not necessary, or that should be included on this form to help in identifying environmental distractors. Other comments (on back of page) will be most helpful in guiding the development of this form.

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LOGO-BASED INSTRUCTION: INCREASING GEOMETRIC CONTENT KNOWLEDGE OF PRESERVICE ELEMENTARY TEACHERS

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INTRODUCTION

The present high school geometry course is not effective for most students. Many students fail high school geometry because of the lack of entry-level knowledge (Senk, 1989; Usiskin, 1982). The difficulties that students have with high school geometry appear to begin in earlier grades. Research findings (Burger, 1985; Fuys, Geddes, & Tischler, 1988; Usiskin, 1982) show that geometry is a neglected part of the middle school mathematics experience of many students. These findings indicate that what geometry is taught at the middle school level is often taught by rote or requires minimal student response and teacher feedback. The weaknesses in instruction are likely to be related to the teachers' own experiences with mathematics. Mayberry (1983) found that many preservice elementary teachers (70%), who had taken a high school geometry class, were at or below van Hiele Level 2 (informal deduction). Preservice elementary teachers who did not take a high school geometry class were at or below van Hiele Level 1 (recognize and name properties of geometric figures). Geometric content knowledge has an effect on instruction. Parsons (1994) found that preservice elementary teachers' instruction was at their measured van Hiele level. That is, if a preservice elementary teacher is measured to be at van Hiele Level 0 (recognition of shapes), then instruction will only be at van Hiele Level 0. Use of a LOGO program could increase preservice elementary teachers' van Hiele levels.

The use of a LOGO program has been found to produce positive results on K-8 student's learning of geometric content (Thomas & Thomas, 1984). Yusuf (1991) found that by using a LOGO program and LOGO-Based Instruction, 7th and 8th grade students were able to raise their van Hiele Levels by as much as two van Hiele Levels. Other research conducted on the effects of using a LOGO program has been directed toward inservice teachers and their implementation of LOGO programming into their elementary classrooms (Moreira & Noss, 1995). No research has been conducted on the use of a Logo program and LOGO-Based Instruction to increase geometric content knowledge of preservice elementary teachers. Thus, the purpose of this research project is to determine if Logo-Based Instruction during a mathematics methods course will raise the van Hiele levels of preservice elementary teachers.

DESCRIPTION OF STUDY

Subjects: Participants in this study were chosen from among those college students who had been accepted into the College of Education at a small midwestern college. Each preservice elementary teacher had at least a GPA of 2.6 and had passed the PPST with scores on reading, writing, and mathematics greater than 171. Each preservice teacher had completed the practicum experience but not student teaching. In addition, each preservice teacher was regarded by her/his instructors as a capable student and a strong candidate to become a successful teacher.

Research Instruments: The Usiskin van Hiele Geometry Test was used to measure pretest and posttest van Hiele levels for the preservice elementary teachers.

Procedure: The research design was a pretest-posttest design. The pretest was administrated under normal testing conditions. Following the pretest, individual preservice teachers prepared a lesson and then taught this lesson to their classmates as if the preservice teacher was in a regular elementary classroom. Teaching demonstrations were to follow the National Council of Teachers of Mathematics proposed standards for teaching and learning (NCTM, 1989; NCTM, 1991). The posttest was administered after one month of instruction.

RESULTS

The purpose of this study was to measure the geometric content knowledge of preservice elementary teachers and to determine if LOGO-Based instruction has an effect on individual geometric content knowledge. Pretest results (Table 1) showed that 85% of the preservice teachers in this study were at or below van Hiele Level 2 (informal deduction). Of these same preservice elementary teachers, 65% were at or below van Hiele Level 1 (recognize and name properties of geometric figures). Posttest results showed that 81% of the preservice teachers in this study were at or below van Hiele Level 2 (informal deduction). Of these same preservice elementary teachers, 62% were at or below van Hiele Level 1 (recognize and name properties of geometric figures) on the posttest. Some preservice elementary teachers in this study gained in van Hiele levels (Table 2). Posttest results showed that 16% of the preservice teachers gained one van Hiele level, 11% gained two van Hiele levels, and 5% of the preservice teachers gained three van Hiele levels. For this study, two preservice elementary teachers were measured to be below van Hiele Level 0 (recognition of shapes) on the pretest (Table 3). Of these same preservice elementary teachers, 16% were not at van Hiele Level 1 (name properties of shapes), 68% were not at van Hiele level 2 (informal deduction), 81% were not at van Hiele Level 3 (formal deduction), and 70% were not at van Hiele Level 4 (rigor). On the posttest, these same preservice elementary teachers showed some gain in van Hiele levels with van Hiele Level 3 (formal deduction) showing the most gain. Some preservice teachers had a loss in van Hiele levels with van Hiele Level 4 (rigor) showing the greatest loss.

IMPLICATIONS

For this study, 62% of the preservice elementary teachers remained at or below van Hiele Level 1(name properties of shapes). For these preservice teachers, using a LOGO program and LOGO-Based Instruction had little or no effect on gaining geometric content knowledge. What is needed is an intervention program prior to the mathematics method course. Geometric computer-assisted instruction could result in significant increases in van Hiele levels for preservice elementary teachers (Breen, 1997).

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Table 1
van Hiele Levels: Pretest-Posttest Results
Highest van Hiele Levels Obtained (1997)

	van Hiele Levels				
	0	1	2	3	4
Pretest	6 16%	18 49%	7 19%	3 08%	1 02%
Posttest	2 05%	21 57%	7 19%	6 16%	1 02%

Table 2
van Hiele Levels Gain-Loss

van Hiele level gain-loss from pretest to posttest (1997)					
-2	-1	0	1	2	3
1 02%	6 16%	18 49%	6 16%	4 11%	5 05%

Table 3
Percent of Preservice Elementary Teachers
at Each van Hiele Level at Pretest and at Posttest (1997)

	van Hiele Level				
	0	1	2	3	4
% at level (pretest)	35 95%	31 84%	12 32%	7 19%	11 30%
% not at level (pretest)	2 05%	6 16%	25 68%	30 81%	26 70%
% of those for whom posttest level was an increase	2 05%	6 16%	5 14%	9 24%	4 11%
% of those for whom posttest level was a decrease	0 00%	1 02%	4 11%	3 08%	6 16%

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